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PREFATORY NOTE BY THE EDITOR.

IT is always a difficult and sometimes a dangerous thing to enter into a new relation with one's friends, and the prudent man will ponder deeply and weigh carefully all the pros and cons of the case before he makes the irrevocable decision. The question that has to be considered is this—will my altered relation to my friends and the public be an improvement or a retrogression; will it forward or retard my projects; shall I stir up jealousy and suspicion, or shall I be able to remove the unjust jealousy which may already exist, and make clear the honesty of my motives and the simplicity of my plans? For it must be remembered, though it may not be very creditable to our common human nature, that the first consideration with nearly every man, when a shuffling of the social cards takes place and our neighbour's relation to us is altered, is the consideration of his own safety. The strong tendency to tyranny that is apparent in, we may say, all mankind has the inevitable effect of arousing a feeling, if not of suspicion, at least of alertness in their neighbours when anyone seems to be favoured or privileged beyond the rest and the social balance has suffered interference. And the wise man must be prepared for this and lay his account for a little distrust, and, perhaps, a good deal of envy—even a little malignity of criticism—when he commences a new work. "A man succeeds in this world only at the point of the sword," says the French philosopher, and one must be prepared to concede this right to his neighbours whilst he claims it for himself.

But in taking over the Editorship of this journal I feel myself in a double difficulty. In the first place, it would be mere affectation of humility to talk of myself as an obscure or unknown man in the veterinary world. So far is this from being the case that I can safely say there is no prominent veterinary surgeon in the country whom I have not the honour of knowing personally, and there are many besides to whom I am known by my books. I feel, therefore, some tremors of anxiety—such tremors as the wildest horse never caused to me—in making my bow before the veterinary profession on the stage of periodical literature. To lose the friendship and esteem of my colleagues and my old pupils by any act of imprudence or forgetfulness would indeed be a terrible calamity for me, and I therefore experience a certain timidity—which I trust is pardonable—in proclaiming my new venture. At this, the outset of my career as the Editor of a magazine, I can only ask the forbearance and indulgence of my readers whilst I assure them that only the very gravest considerations, and no mere idle vanity, could have induced me to take up so important and responsible a position. In another paragraph I sketch out the policy which I intend to adopt in the conduct of this journal, and this policy, I sincerely trust, will meet with the approval of my friends and the public, and so remove all misunderstandings and disarm all hostile criticism.

My second difficulty is a much more serious one, and I fear almost to approach it. To explain what I mean I cannot do better than quote the words of our great poet:

> In a theatre, the eyes of men,
> After a well-graced actor leaves the stage,
> Are idly bent on him that follows next,
> Thinking his prattle to be tedious.

My readers will sympathise with me, and understand the hesitation which I felt when I was asked to follow such an illustrious editor as Dr. George Fleming. To take up the position of Editor of this journal in succession to a man of Dr. Fleming's brilliant literary powers and distinguished scientific career is inevitably to invite comparison, and, I fear, comparison to my disadvantage, perhaps mingled with some surprise at my boldness. Yet, on the principle of "Never venture, never win," I resolved to accept the difficult post, and to trust here also to the forbearance of the public.

It is the custom in the French Académie, when a new member is elected to a place amongst the illustrious forty, for this new member to commence his career by pronouncing

a eulogy on his predecessor, and such an example may not be out of place in an editorial preface. There is this fortunate difference in my case, that I have not to pronounce a eulogy on a deceased friend. Dr. Fleming is still among us, and still full of vigour and energy, as he is full of honours and distinctions. I am sure I express the wishes of all the readers of this journal when I express the hope that he may long be spared to adorn our profession and to serve his country. We have need of men of this stamp, men of eloquent voice and powerful pen, to aid us in our struggles and advise us in our perplexities; and, whilst we thank the Fates for sending us wise counsellors and able advocates, we must not forget that we also have our part to perform in honouring such men and seconding their efforts.

Again, "I am a plain, blunt man," and not given to eulogising anybody; but I feel that it would be unbecoming, that it is indeed indispensable on my part, to allow the present occasion to pass without mentioning a few at least of the meritorious services which Dr. Fleming has performed on behalf of his veterinary colleagues. His own modesty has probably prevented the readers of the VETERINARY JOURNAL, or at least the younger among them, from guessing the importance of the task which Dr. Fleming set before himself at the beginning of his editorial career, and in due time accomplished; but all the more is it incumbent on me to proclaim these merits.

George Fleming has been the editor of the VETERINARY JOURNAL for twenty years, in fact ever since it was established, and he has during all that time, with marked ability and firmness, advocated the cause of the veterinary profession, and not only obtained the redress of many grievances, but procured for us many advantages. We can never be sufficiently grateful to him for the important part he took in obtaining from Parliament the "Veterinary Surgeons Act," whereby our profession received a distinct social recognition, and was raised, in accordance with its merits, to a position second only to the medical profession. Up to the passing of this Act any ignorant farrier or shoeing-smith could call himself a veterinary surgeon, and might exercise his barbarous ingenuity on poor dumb animals, but after the "Veterinary Surgeons Act" became law all such abuses were made illegal, and the term "veterinary surgeon" and the letters M.R.C.V.S. became a title of honour, as well as a guarantee to the public that the person privileged to use them had undergone a thorough professional training and

possessed at the very least a sound basis of scientific knowledge and skill. It is hardly necessary to add that at the same time care was taken in framing this Act not to do any injustice to men who, without having undergone special training, had for five years previous to its receiving the royal sanction been in practice as farriers, and who might have been, by a stringent application of the new law, practically deprived of their living. It was thus that Dr. Fleming and his coadjutors succeeded in combining justice with mercy and generosity.

It would take a long time to enumerate all the honours to which Dr. Fleming has attained. He was for years principal Veterinary Surgeon to the British Army, and was honoured with the title of Doctor of Laws by the University of Glasgow. He has been President of the Council of the Royal College of Veterinary Surgeons, 1880, 1, 2, 3, 4, 6 and 7; has held office as Examiner since 1872 to the present time, and is the author of many works which are of great value to the profession. I have no doubt the word Examiner sends still a shudder through the hearts of my readers, as they recall—or anticipate—the terrible and critical quarter of an hour in front of the dread being who, in his wisdom, decides the fate of trembling mortals, and seems to be guided by no principle which admits of prognosis by the student. But I think everyone will admit that in Dr. Fleming the unhappy candidate meets an examiner who is at once courteous and firm, who unites thorough knowledge of his subject with skill in asking questions, who can in a moment detect the difference between ignorance and mere timidity, and who is perfectly able to find out, by his rare tact, what a candidate knows on the various points that come under review during an examination, and gives the candidate full credit for that knowledge when he pronounces his final verdict upon him.

In a word, we find in Dr. Fleming a combination of qualities such as is rarely met with, and we have much reason to be proud of this ornament of our profession.

LATHYRUS SATIVUS, THE VETCHLING.

BY R. STEWART McDOUGALL, M.A., B.SC.

THE natural order Leguminosæ includes a very large number of plants having among them very diverse properties, some being nutritious, others purgative and astringent, and still others poisonous. The order is divided into three suborders:—(*a*) Papilionaceæ, (*b*) Cœsalpineæ, (*c*) Mimoseæ.

The Papilionaceæ is the sub-order that concerns us, and contains such well-known plants as lupins, whin, broom, clover, medicago, vetches, lathyrus, haricot-bean, scarlet-runner, peas, gram, lentil. In view of what I shall have to say later on it is worthy of note that among ancient nations some of the pulses were reckoned unclean, the bean for example, which Pythagoras condemned to his disciples because the constant use thereof dulled men's wits and caused many dreams; while others declared that therein dwelt dead men's souls, and that, therefore, at least, the "bishop should not eat beans."

THE VETCHLING (*Lathyrus Sativus*).

One of the tribes of the Papilionaceæ is the tribe *Vicieæ*, including such genera as lentil, pisum, cicer, vetch, Lathyrus. The genus vetch and the genus Lathyrus have many points of resemblance, and it is not easy to give absolute characters to emphasise their difference, but generally it may be said that while both are climbing in their habit, the plants of the genus *Vicia* have more numerous leaflets, the leaflets of the genus Lathyrus being few, one or two pairs, and sometimes none. A more scientific distinction is that the "style" of a vetch is thread-like and ascending, with no conspicuous dilation towards the apex, whereas the style of a Lathyrus is often bent, and is dilated towards the apex. The genus Lathyrus is made up of a large number of species, of which 10 or 12 are indigenous to Britain, among them such well-known plants as L. sylvestris (the narrow-leaved everlasting pea), L. latifolius (the broad-leaved everlasting pea), L. tuberos as (the tuberous vetchling), L. pratensis (the meadow vetchling), L. hirsutus

(the hairy vetchling), L. aphaca (the yellow vetchling), and so on.

Incidentally I might call attention to one of the suggested derivations of *Lathyrus*, viz., "la" augmentative and "thouros," anything exciting (in reference to the qualities of the seeds). *Lathyrus sativus*, an annual, is not a native of Britain, although a correspondent in the *Gardener's Chronicle* reminds us that not so long ago it was to be found in our gardens under the name of L. coeruleus, and appeared in seed catalogues under the title of L. azureus, or Lord Anson's pea.

It has been long cultivated in the south of Europe as a fodder plant, and, according to De Candolle, was indigenous, before cultivation, in the region extending from the south of the Caucasus, or of the Caspian Sea, to the north of India, "spreading thence towards Europe in the track of ancient civilization."

There are several varieties of L. sativus, showing slight differences in colour of flower, size and colour of seeds, in colour of foliage (darker or lighter), and strength of growth. I wish to refer specially to two varieties, viz.—1stly, by the L. sativus, with small dark-coloured seeds, known in India as Khesári pulse, or Latri, or Matar. The terms Matar, Muther, Mutter, are all names used in India for peas generally, and the L. sativus, imported from India, is well known in Britain under the name "Mutters." Secondly, Lathyrus sativus, the white variety, with larger pale-coloured seeds, which are popularly spoken of as the seeds of the dog-tooth vetch, or the dog-tooth pea. Many inquiries are being made up and down the country as to what genus or species these latter seeds are to be referred to. Through the kindness of Professor Balfour we have been able to rear plants from these large wedge-shaped seeds, with the result that the seeds are seen to belong to Lathyrus sativus, "weisse," the white-flowered variety of the continent, a result confirmed by one of the greatest living authorities on seeds, Prof. Noble.

As to a general description of the plant. Lathyrus sativus, although an annual, may be treated as a biennial by planting late, say in early autumn, when, by due care, and in favourable conditions as regards soil, the plant will flower in spring. The leaflets are in single pairs, oblong or lanceolate in shape, and with a three-parted tendril between them. The flowers, which are solitary, may be bluish, or they may be white. The plant may grow to a height of three feet or so, obtaining support by its tendrils. The fruit is a small, smooth-winged, several-seeded pod.

The seeds vary in colour and size, but all have the characteristic wedged, angled, or hatchet-shaped appearance.

Here is a table showing colour, size and weight of certain samples examined by Harz:—

Locality.	Colour.	Largest diameter.	Weight of 100 seeds in grammes.
..	greenish yellow	10·1 ..	20·871
..	reddish yellow	10·3 ..	25·830
Austria ..	yellowish green	9·5 ..	23·756
Sicily	pea coloured spotted ..	12· ..	41·423
Bohemia ..	reddish pea coloured ..	8·3 ..	16·637
Verona ..	pea coloured	15· ..	56·545
Greece ..	coloured, partly faint pea, partly brown ..	7·6 ..	18·438
Sicily	pale pea coloured ..	14·7 ..	48·991
East India ..	dark marbled on a brownish ground ..	7·1 ..	13·619
East India ..	deep reddish brown, black spotted	7·5 ..	16·527

A note of different analyses may be found useful. Church in his Food Grains of India, gives for the Indian variety:—

	In 100 parts.
Water	10·1
Albuminoids	31·9
Starch and fibre	53·9
Oil	·9
Ash	3·2

The nutrient ratio is 1 : 1·75, the characteristic being the richness in nitrogenous constituents.

Harz found the Lathyrus to contain 84 per cent. of dry substance, yielding 25 per cent. of proteid stuff, 1·9 per cent. of fat, 54·5 per cent. of non-nitrogenous extract, 4·1 per cent. of fibre, 2·9 per cent. of ash.

The seeds of Lathyrus sativus "weisse" (the so-called dog-tooth vetch), grown on chalky, loamy soil, contained in 100 parts of air dry weight—

Water	12·31
Ash	2·19
Cellulose	4·44
Starch	31·10
Other non-nitrogenous substance	26·42
Proteid	23·63

100 parts of the ash yielded:—

Potass	45·13
Chloride of sodium	2·28
Lime	10·86
Magnesia	3·72
Iron oxide	0·44
Phosphoric acid	21·86
Carbonic acid	9·78
Sulphuric acid	4·96
Silicic acid	0·98

Cultivation.—In India it is sown about the close of the rains (October), in heavy clay soils, and on land hardened through submersion, and occasionally in rice-fields before the rice is cut. It may be reaped in March; many thousands of acres may be under the crop. Full particulars as to cultivation and acreage may be found in Government reports and in Watt's Economic Products of India."

Parts of the plant used as food.—(*a*) The green parts may be cooked and eaten by the poor people; (*b*) Grown as fodder for cattle in India. In an herbal dated 1829, Lathyrus sativus is mentioned as frequently sown in Switzerland for soiling cattle; (*c*) In India the young pod is eaten sometimes as a green vegetable; (*d*) The seeds are eaten cooked, or ground into flour, and made into bread.

Other uses.—(*a*) Used to adulterate the pigeon pea, Cajanus Indicus, known in India as dal. This latter pulse is much cultivated in India, and is held in much favour, being eaten to a very large extent roasted, or in cakes or curries, etc.; (*b*) The seeds are given to poultry. I have gone into several grain-dealers' shops in Edinburgh, and asked to see their feed for poultry, and have had no difficulty in recognising and picking out of the general feed seeds of L. sativus "weisse" (the so-called dog-tooth vetch), which had been added as an adulteration. Some of the grain-dealers did not trouble about the presence of the Lathyrus seeds, while others, more careful, informed me that if such adulteration showed itself in a sample they returned it. I found that the reason of refusal of a sample showing seeds of L. sativus did not rise from any decided knowledge that the Lathyrus sativus seeds had been known to be harmful, but the general impression was that they were "an inferior quality of pea;" (*c*) Dr. Voelcker has recorded several cases where mixed feeding cakes have shown themselves to contain on examination the seeds of L. sativus and bad effects followed the use of such.

The Effects of continued Eating on Man.—In the "Transactions of the Botanical Society of Edinburgh" I have gone fully into this aspect of the case, quoting representative evidence, which I need not repeat here. Suffice it to say that in the case of human beings using the pulse as a daily article of food paralysis of the lower extremities is the result. The attack is sudden, and the paralysis is incurable. As an old herbalist laconically puts it, "the disease is incurable, but being neither very painful nor fatal those who are seized with it generally submit to it with patience."

There are records of epidemics of paralysis following the use of L. sativus seeds, both in Asia and Europe. There seems to be a strong opinion that the pulse may be used as food, provided that a certain proportion be not exceeded. But I will return to this in dealing with its effects on horses.

How it Affects Horses.—A typical instance was the case, reported by the Messrs. Leather, of Liverpool, in 1884, where in a stud of 74 cart-horses, 35 became ill as a result of the Indian mutters being mixed with their food to the quantity 3 or 4 lbs. a day. Of the 35, 19 died, 2 were killed as useless, and 14 recovered. The symptoms, as described by the Messrs. Leather, were these: Sometimes the horses said to be affected seemed, when at rest, in perfect health, but on being exercised, particularly if the weather was cold, they were seized with dyspnœa and roaring, some dying from asphyxia, others getting relief when tracheotomy had been performed. There is a great body of evidence that, in cases of such attack tracheotomy gives an almost immediate and complete recovery. The Messrs. Leather reported another case, from Rouen, where, out of 54 horses belonging to an omnibus company, 29 were seized with illness, 9 dying, and tracheotomy being performed on the rest. This company had 300 horses, but only one stable showed attack, the one in which L. sativus was used. A closing reference in this connection may be made to the now famous Bristol Tramways Company case, where 123 horses out of a stud of 800 fell ill owing to feeding on L. sativus. As indicating the symptoms of attack, I quote from an interesting account by Mr. Challenger, the manager of the company: "The horses suffered from what was styled, for want of a better name, 'an epidemic of falling.' They would fall suddenly, without any accountable reason. Cab and carriage shafts were broken daily, as also were the car-poles." And again, "A horse being exercised was taken suddenly ill: it roared, its flanks heaved, its mouth was kept wide open, the nostrils were distended and the tongue hung out and became livid; it stared and staggered and threatened every moment to fall down strangulated or suffocated, and during this paroxysm, which lasted several minutes, the perspiration ran freely off every part of the horse." Severe exercise, or even ordinary exercise, is not necessarily, although commonly, the precursor of attack. Mere excitement is sufficient to induce a paroxysm, as testified by Principal McCall.

Climatic Conditions.—As in the case of men being attacked, so also with horses, cold weather was the time when the illness

asserted itself, and in wet, damp conditions. In the Messrs. Leathers' case the attack was in damp, cold weather and biting east winds; in Rouen, the month of January; in cases dealt with by Principal McCall, the early winter, and in Bristol, January, February, and March. As with man, so with horses the Lathyrus is a cumulative poison, the symptoms of poisoning showing themselves the sooner the greater the proportion of L. sativus seeds in the horses' food. Principal McCall states that 2 lbs. a day could be continued for six weeks or so before symptoms of attack showed themselves; while at Liverpool the Messrs. Leather fed 4 lbs. or 5 lbs. a day out of 20 lbs. of grain for three months. There is generally a certain proportion of horses that do not seem to be affected. Indeed, it is curious to learn from the evidence in the Bristol Tramways Company case that corn merchants in different parts of the country were in the habit of buying quantities of the seeds of Lathyrus sativus, and that, having sold it in mixtures for horses in proportions varying from 2 to 10 per cent., they had received no complaints. As far as experimental evidence is obtainable, such would seem to show that boiling the seeds before use renders them innocuous. In a number of cases dealt with in Glasgow and neighbourhood 100 bolls of the L. sativus seeds lay unused for some time until, by Principal McCall's orders, they were boiled, steamed into a pulp, and, when fed in quantities of 1½ lb. per night per horse, no bad effects followed.

Watt, in his valuable article, points out that there is a "certain capriciousness" in the effects of the poison on different individuals, and, adopting the view that the poisoning effects are due to a volatile alkaloid, he suggests that persons eating thin cakes made from L. sativus grain do not suffer, as all parts of the cake being thoroughly exposed to a high temperature, the poison is eliminated; whereas in food preparations exposed to only a moderate temperature, sufficient of the poison remains to act injuriously on those partaking of such foods.

In the examples quoted as to injury to human beings in India and to the horses in Liverpool, Glasgow, and Bristol, the small, dark-coloured seeds caused the harm. But there have been frequent references lately to horses showing the same kind of attack on being fed with mixtures containing the large white-coloured seeds of L. sativus "weisse"—the so-called "dog-tooth vetch"—in Bedlington, where a number of mine ponies suffered; at Eastwood 20 or 30 horses, at Newcastle 10 or 12, and again near Sheffield 12 horses.

I will take the last case as typical of the others, and it will be seen that the symptoms are the same as in the black-seeded variety, which, knowing that the dark and the light-coloured seeds are both L. sativus, is not surprising. Mr. Abson, of Sheffield, to whom I am indebted for a large sample of the seeds, tells how the Sheffield horses, first fed with the seeds in January, began, in April and May, to become thick in their wind; how they fell to the ground, and how on gentle exercise they were seized with roaring until, as before, tracheotomy was performed to prevent asphyxia.

(*To be continued.*)

NOTES ON THE CLINICAL HISTORY OF GASTRIC AND INTESTINAL AFFECTIONS IN THE HORSE.

BY E. WALLIS HOARE, F.R.C.V.S., CORK.

THE results of *post-mortem* examinations demonstrate that it is not possible to diagnose, with any degree of accuracy, the existence of gastric affections during life in many instances. No doubt we meet with cases which present those symptoms which are usually attributed to gastric, as distinguished from intestinal affections, and when such cases recover we are apt to consider that our diagnosis was correct. On the other hand, if they terminate fatally, and no autopsies are held, our knowledge concerning them is not increased, while, if examinations are made after death, we observe frequently that symptoms are very variable, and often deceptive.

There are some authorities, and some practitioners, who believe that by observing certain symptoms, such as the character of the pain, the amount of constitutional disturbance present, the condition of the pulse and respirations, the various attitudes assumed by the patient, the evidence obtained by a rectal examination, etc., they can differentiate during life between colic, gastritis, gastric impaction, acute gastric tympany, enteritis, volvulus, rupture of the stomach, etc. But these symptoms, although in some cases they may prove of value, in the large majority are not to be relied on as affording positive evidence of the existence of a certain lesion. Of course there are certain symptoms which, to the practised eye, quickly denote that a fatal termination is imminent; such as a pulse which is rapidly running down, a characteristic haggard expression of countenance, coldness of the extremities and sudden abdominal distention, with an apparent ease from pain previously acute. But even these,

along with any peculiarities of attitude which the patient may have assumed, will not warrant us in being too positive of the exact nature of the affection. At the commencement of many abdominal affections we cannot even be definite in our opinion as to the prognosis, as some, which may appear to progress favourably, often become serious; while others may present symptoms to our notice which would lead us to infer that a fatal termination would be likely to ensue, and they recover, to our surprise. However, the condition of the pulse and the amount of constitutional disturbance present, together with the character of the pain, are valuable aids to prognosis, although of little value in diagnosis.

We must consider the fact that when drugs are given for the relief of pain the symptoms of the affection are either masked or altered. Take, for example, the effects of large doses of opium or morphine in many horses. Here we have all the symptoms of cerebro-spinal excitement, the animal walking round the box continuously, or pawing with the fore feet, symptoms which are sometimes attributed to the disease, but which in reality can be produced in a healthy horse by administering these drugs. If we administer a drug which is an hypnotic as well as being an anodyne we prevent the manifestation of pain, although, in the case of a fatal affection, we cannot retard the inevitable result. Here, again, symptoms are masked, but in our choice of such a medicinal agent we are adopting our only chance of any success, which is to relieve pain, and if there is any probability of the diseased structure or organ returning to a normal condition we give it as much rest as possible. One point to which we should direct special attention is that when the stomach of the horse is distended with gas or with ingesta for a certain period, its walls become paralysed. Some experimenters have demonstrated that there is no absorption of drugs from the stomach of the horse, and this, in addition to the inability of the organ to propel its contents when its walls become paralysed from distention, will account for the non-activity of even large amounts of anodyne medicines administered in such cases. Is it possible to distinguish during life between acute tympany of the stomach, impaction of the stomach, and acute gastritis?

Cerebral complications frequently arise in all, so that diagnosis is rendered still more difficult. But it would be of importance to distinguish the presence of gastritis, if possible, because in the treatment of the others medicinal agents such as ol. tereb., aloes, etc., are indicated, while in the

former they are likely to do more harm than good. I must frankly confess that I have found it impossible to distinguish between them during life, and also that I have frequently found gastritis to accompany the other conditions.

The reasons why cerebral complications arise in some cases and are absent in others is a mystery, which is difficult if not impossible to solve.

The subject of gastric affections in the horse is one which offers a wide field for investigation, both as regards diagnosis and treatment, but neither are as yet in anything like a satisfactory condition. In a case of acute tympany of the stomach, in which the organ assumes an enormous size from distention by gas, we are anxious to ascertain some reliable form of treatment. If we could diagnose the condition, would it be possible to introduce the probang, and so allow the gas to escape? or is there a safe and reliable method of puncturing the organ with a trocar and canula? When the walls of the organ become paralysed, what drugs will restore the lost tone and prevent the reappearance of the gas?

Again, in the case of impaction of the stomach with solid ingesta, with the walls of the organ paralysed and the mass of food moulded so firmly into them that at an examination after death the mass assumes the shape of the viscus, of what avail can the skill of the therapeutist be?

Again, in a case of acute gastritis, with, perhaps, cerebral complications, we know only too well the little value of treatment.

At *post-mortem* examinations of such cases as these we frequently regret the course of treatment pursued, and often determine that at the next case we shall act with greater discrimination and with more success. But patients again die, and diagnosis is "knocked on the head" at the autopsy, with the result that we find the treatment still either erroneous or of little avail.

The following notes taken from my clinical case book may prove of interest as showing the variety of symptoms which may be presented in such cases:—

(1.) *Acute Gastric Tympany with Gastritis.*

Subject.—A chestnut hunter four years old.

History of Case.—Had always been a greedy feeder, and in consequence of having a slight cold was kept inside for a week, but fed as usual.

On the night of October 7th the owner heard the horse pawing in the stable, but did not consider that anything was

amiss. The groom on entering the stable next morning found the horse sitting on his haunches for a few minutes together, and then appearing to be in acute pain.

On my attendance, at 10 a.m., I found the animal assuming the position mentioned, the fore legs being advanced as much forward as possible; after resting thus for a few minutes he got up and pawed with each fore foot alternately, then laid down heavily and turned his head towards the right flank, and made frequent attempts to roll on his back. There was profuse sweating on both flanks and quarters, and the animal frequently groaned and stretched out as if trying to urinate. The pulse was quick, and rather wiry in character, the visible mucous membranes injected, the respiration hurried, and the abdomen hard and tense to the touch. I administered chlorodyne 3 ozs., spt. æth. nit. 2 ozs., and after a reasonable time, as this produced no effect, I gave ext. cannabis indica 1 oz. An enema was also given, which was quickly returned, and a rectal examination revealed nothing except extreme contraction of the part.

The symptoms continued, with short periods of relief: the animal would occasionally stretch out at full length on its side and groan, and endeavour to lie on the back. He frequently got up, and while doing so would sit on the haunches, this position appearing to give temporary relief. He occasionally rested on the sternum, with the fore legs advanced. The tail was constantly twitching, and there were frequent tremors of the muscles of both shoulders.

On visiting again at 12 o'clock there was no improvement, so I administered another ounce of ext. cannabis indica, also put him under the influence of chloroform. On recovering from this the pain still continued, but in a far less degree, and the animal obtained periods of apparent ease from pain, but occasionally was affected by twitching of the muscles. At 6 p.m. the pain again commenced, and 1 oz. of ext. cannabis indica was given.

Visited at 9.15 p.m., and found the animal pawing violently, sweating profusely on both flanks, pulse very quick and rather weak, found that he had taken bran-water of his own accord. Gave one ounce of ext. cannabis indica, also a hypodermic injection of morphine $9\frac{3}{8}$ grains, atrophine $\frac{1}{3}$ grain. In twenty minutes he commenced to paw violently with the off fore foot in different corners of the box, he kept his head in the manger occasionally, and moved the lips rapidly, as if taking food; eructations of gas occurred, accompanied by what I would term hiccoughs. He lay down

carefully, and rolled on his back occasionally, sweated profusely on both flanks, and occasionally sat on his haunches.

At 10 p.m. animal in same condition, so administered a similar dose of morphine and atrophine hypodermically, with no result.

At 11 p.m. repeated morphine and atrophine, and gave 2 ozs. of ext. cannabis indica as a last resource, as the pain still continued. The respirations were greatly accelerated and accompanied by a wheezing sound, with the nostrils dilated; the head was forced into corners and against the wall, the sweating all over the body was very profuse, the pupils dilated, pulse quick and weak, tympanitic condition of the abdomen, coldness of the extremities.

At 12 o'clock the animal appeared semi-unconscious, and ran against the door of the stall, forcing it out and also the wall; he then found his way into a garden, breaking up everything with which he came in contact, and steaming to a great extent all over the body. He next ran down a steep hill into a lawn, falling several times, then made a charge into a loose boundary wall, and succeeded in getting over it into a neighbour's garden, the constant tendency being to push forward, and we found him at last with his head firmly fixed in an apple tree: the respirations being accompanied by a shrill sound, and the body enveloped in a cloud of steam; any light seemed to distract him to a great extent.

On extricating him from this position he ran madly forward, falling about in a helpless manner, and so frightened those about him that one of them dispatched him by means of a poleaxe.

Post-Mortem Examination, Oct. 9th.—Body well nourished, but rather fat. Stomach enormously distended with gas, and the viscus appeared of extensive dimensions. It contained a large amount of unmasticated white oats. The mucous membrane of the villous portion was acutely inflamed in patches, and much thickened all over. Among the ingesta I found three of the boluses of cannabis indica which were administered. The small intestines were empty, and about the middle of the ileum there were two small patches of acute inflammation. The large colon was full of ingesta, containing a quantity of white oats not digested. Other organs normal.

Remarks.—The exciting effects during the last stages of this case must be ascribed to the large doses of morphine. The failure of the cannabis indica was probably due to the

paralysed condition of the gastric walls, as, in the majority of cases, a dose of 1 oz. will have a marked hypnotic effect.

(2.) *Acute Gastric Tympany, with Gastritis and Enteritis.*

Subject.—A chestnut farm mare, five years old.

History of Case.—Always healthy. On evening of Nov. 3rd was fed as usual, and was apparently well. On morning of Nov. 4th was found in acute pain, getting up and lying alternately, and rolling. On my attendance at 10.30 a.m. I found the animal standing, having been prevented by the attendant from knocking about. The pulse was quick and weak, respirations greatly accelerated, abdomen tympanitic, but full and tense to the touch, and tender on pressure; an anxious expression of countenance. On allowing her to lie, she stretched at full length, groaned frequently, and turned her head towards the right side; visible mucous membranes injected. She lay occasionally on the sternum, with the off fore leg advanced. The skin was abraided from this region. Gave chlorodyne 4 ozs., ext. cannabis indica ½ oz. Found it very difficult to get her to swallow the drench.

At 12 o'clock visited, and found pain continuous but not violent; abdomen very tympanitic, and patient has been passing flatus at intervals; would throw herself heavily if allowed, groans constantly. Gave ol. tereb. 2 ozs., æther sulph. 2 ozs., fl. ext. cannabis indica 2 ozs., ol. lini. a pint and a-half; also administered enema, which was quickly returned. Rubbed mustard and turpentine liniment into abdomen.

At 2 p.m. still in slow pain; gave fl. ext. cannabis indica 2 ozs.; in about 20 minutes the animal got quiet, and lay at full length in a drowsy condition.

At 8 p.m. the pain returned, so gave chloral hydrate, 2 ozs. in solution, and left a similar dose to be given in three hours if necessary.

The owner called at 8.30 a.m. next morning, saying that the pain had returned at 3 a.m., and he had given the dose left; also that she was quiet since, but before leaving there were occasional twitches of pain.

Visited at 11 a.m., and found the animal had a rather haggard expression of countenance, ears drooping, pulse quick and weak. The abdomen was greatly distended with gas. Punctured the intestine through the flank, and let off a large quantity of gas. Gave enema with long rectum tube, but it was not retained, and only brought away a small

amount of hard fæces. The extremities were cold, and there was quivering of the muscles of both shoulders. Made up dose consisting of æther sulph. 4 ozs., whisky 8 ozs., but while administering it the fluid was returned by the nostrils. The patient went down quickly and lay on the sternum with both fore legs crossed one between the other; there were feeble attempts at vomition, but no egesta appeared. The eyes were glassy in appearance, and cold sweats occurred, especially over the region of the shoulders. The animal got up a few times, but while doing so sat on the haunches for a minute or so, still continuing the feeble attempts at vomition. She wandered about the stall in a listless manner, shoving her head against the walls, and finally went down and died after a few convulsive struggles.

Post-Mortem Examination, Nov. 6th.—The stomach was enormously distended with gas, and contained a large amount of ingesta, consisting of hay and turnips. The villous mucous membrane was acutely inflamed, and of a dark colour. The small intestines were inflamed in patches, and the large intestines contained a large amount of hard ingesta, the mucous membrane of the large colon being also inflamed in patches. The liver was of a pale yellow colour, and very friable.

(3.) *Acute Gastro-Enteritis.*

Subject.—A six-year-old general harness gelding.

History.—No definite history could be obtained, as the carcase was brought to the kennels from the country, the owner stating that the animal, shortly after going on a journey and being fed, was seized with violent pain, and died in a rather short space of time.

Post-Mortem Examination, Oct. 26th.—Stomach was about half-full of unmasticated black and white oats, and there was hardly any tympany. The villous mucous membrane was acutely inflamed and thickened all over its surface. The small intestines were almost empty, and were inflamed in patches throughout. The colon, in its third and fourth divisions, contained a large amount of sand, and its mucous membrane was inflamed in patches.

(4.) *Acute Gastritis, with Gastric Impaction and other Complications.*

Subject.—An aged bay gelding, used for general carting work.

History of Case.—Up to Aug. 31st the animal had always been healthy, and in fine condition. On this day he refused

his feed, became dull and sleepy, and wandered about the stall in a listless manner, knocking his eyes and head against the walls, and forcing his forehead against any objects which came in his way.

My attendance was requested on Sept. 3rd, and I found both eyes closed up, and the skin abraided off different portions of the head. The animal had hardly eaten anything since Aug. 31st, but had been purging freely. The pulse was slow and feeble in character, temperature 101°; there was a profuse discharge of frothy saliva from the mouth, villous mucous membranes injected; there was great stiffness of the hind quarters during progression, the urine was of a dark colour, and the animal strained while micturating. I prescribed stimulants and small doses of belladonna, digitalis and spt. æth. nit.

Next day the owner called to say that he could not administer anything to the horse, that the animal got very violent, and got out of the stall into a drain, and while struggling therein he ordered him to be destroyed with a pole-axe.

Post-Mortem Examination, Sept. 5th.—Body greatly emaciated, a large amount of fat around abdominal organs. The stomach was enormously distended with a fermenting mass of bran, carrots, and potatoes, and was packed to its utmost, so that the contents were moulded to the walls of the organ. The villous mucous membrane was acutely inflamed all over, and covered with what appeared to be a layer of pus. The cuticular portion showed the membrane peeling off in patches. The small intestines were almost empty, and the large intestines contained a quantity of semi-fluid ingesta. The liver was enlarged, and its surface of a beautiful appearance, resembling red marble. On examination it proved to be that variety of hepatic affection known as "nutmeg liver." Both kidneys were enlarged, and the right one contained pus in the pelvis. The bladder was full of dark-coloured urine, and its mucous membrane was of a blackish tint. The heart was enlarged, and affected with fatty degeneration.

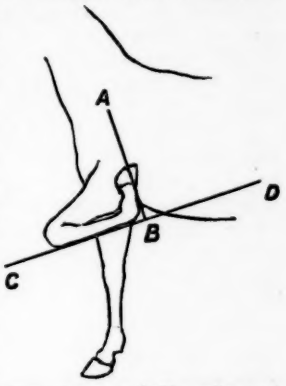
(*To be continued.*)

FIBROUS ANCHYLOSIS OF THE FETLOCK JOINT.

BY VETERINARY-CAPTAIN (A.V.D.) J. A. NUNN, D.S.O., F.R.C.V.S., PRINCIPAL OF THE LAHORE VETERINARY COLLEGE.

IN the July number of the VETERINARY JOURNAL for 1892 an article was published by Veterinary-Captain L. J. Blenkinsop and myself on "Fibrous Anchylosis," in which the

method of breaking down the adhesions in the fetlock and knee-joints was described. Since this article was written I have come to the conclusion that defective power of flexion of the fetlock-joint is a much more common cause of lameness than is generally supposed; also that in most horses that are beyond the prime of life the power of flexion of this joint is imperfect; whereas in young animals that have not done any work it is normal. I have lately taken 40 young animals under 18 months of age, and in all of them flexion of the joint was complete; but in 40 others, between 8 and 12 years of age, in only one was this so; the other 39 were all defective. These animals were not specially selected in any way. What I took for the normal degree of flexion was a line A B on the front of the pastern, making nearly a right angle with another on the front of the metacarpal bone, C D, and the stiffer the joint the more acute the angle A B D becomes.



EXPERIMENTS IN SHOEING HORSES WITH ALUMINIUM SHOES IN EGYPT—RESULTS—REMARKS.

BY W. LITTLEWOOD, M.R.C.V.S., CAIRO.

THE following horses were shod with aluminium shoes during month of May, 1893, under the supervision of Mr. Charman, who instructs native farriers, and is in charge of the shoeing of the Egyptian Government animals.

Horses Nos. 1 and 2, doing ordinary hack and driving work, wore out the shoes in 14 days, in one case a shoe was broken at the nail-holes in 7 days.

Horse No. 3, ridden by an orderly (police), doing hard and at times fast work, wore out its shoes in 11 days.

Horses Nos. 3 and 4, doing police patrol, wore out their shoes in 16 and 18 days respectively.

Horse No. 5, doing very easy patrol (police), wore out its shoes in 31 days.

Horse No. 6, doing transport work (police), wore out its shoes in 20 days.

Horses 1, 2, 3, 4, and 5 were working on macadamized roads in Cairo; horse No. 6 was working on paved streets in Alexandria.

Those horses shod with machine-made shoes (British Army pattern) rarely require a new shoe before a month, except in case of casting a shoe; in some cases the shoes are removed at end of month and again nailed on.

The advantage of the aluminium shoes are their lightness, and they would never be cast except they broke at nail-holes.

The disadvantages are:—Their cost, costing in Egypt about 7s. per set, the present shoe in use (British Army pattern) costing 1s. 5d. per set. The metal is too soft, spreading out over sides of hoofs after a few days' wear, and in horses with close action causing brushing.

AN UNCOMMON CASE.

BY VETERINARY-CAPTAIN R. MOORE, F.R.C.V.S., 12TH LANCERS.

An officer in the regiment of which I have veterinary charge bought a chestnut gelding (first charger) at Tattersall's in the autumn of 1890, and the horse joining his new regiment apparently in good health; but it was soon, however, discovered by the groom, his owner, and the veterinary officer that he was a delicate horse, and required an unusual amount of care and attention. He was always a slow, "dainty" feeder, and easily "knocked off" his feed altogether by an unusual amount of work or excitement. Yet he was always able to do his duty fairly well, with the help of a rest for a week or two occasionally, and a little treatment for liver, which seemed to be his chief weakness.

During the first summer after purchase he suffered a little with congestion of the fore feet, which were unnaturally small; but this soon yielded to treatment such as physic, stopping the feet, poultices, steeping the feet in warm water, &c. The year following he had a swelling across the loins, which came without any apparent cause. This yielded readily to physic, fomentations, stimulating liniment, and mash diet. Since the disappearance of that swelling, and particularly during the last year (1894) we have noticed atrophy, falling away or diminution of the size of the muscles in the lumbar region.

His skin has never been thoroughly healthy during these years, and the coat has been a constant trouble. It was always dull and very long, considering that the horse was a

thoroughbred. He never cast the coat, like other horses, in the spring of the year, but carried it far into the summer; then it would be cast, and another long coat produced immediately. Of course, I was often asked why the coat was so troublesome, unhealthy, unsatisfactory, and long. My answer was that the horse might have been born out of due season or late in the summer, in which case he would be longer in casting his coat; or that his kidneys were not acting naturally, and that the skin had to assist them in casting off the effete materials of the system, which materials (urates of soda, &c.) stimulated the growth of the hair and kept the coat dull. There was no other sign or symptom of kidney disease, unless the swelling on the back should have been taken as such.

The horse never did well in Edinburgh; he never fed well, and his liver seemed to be easily deranged. The conjunctiva would suddenly become heightened and tinged with yellow, this being accompanied by a slight rise of temperature. These symptoms would disappear equally suddenly after the administration of a ball containing a scruple of calomel, and a dram each of the extract of belladonna and camphor; 2 ozs. hyposulph. soda being also given daily in the drinking water for as many days as were necessary.

The owner ceased to use the horse towards the close of this drill season, after a day on which the horse seemed scarcely able to carry him home. On examination I found him suffering from one of his old liver troubles. There were no symptoms of disease of the kidneys, yet my thoughts often travelled to them, giving them due consideration. I had some of the urine sent to the New Veterinary College for analysis, but before I got the report the end came in a remarkable manner.

The owner was doubtful as to whether he should have the horse clipped or not, and asked my opinion regarding it. I told him that I recommended the horse to be clipped, as I was strongly under the impression that the kidneys were at fault, in consequence of which the work of the skin was unduly increased, and that it would be greatly relieved by the removal of the hair.

The horse was exercised in the barrack square on the two following days, and he was so lively that the groom had all he could do to manage him. On the following morning he was clipped, and about midday the grooms began to singe him, when something occurred to frighten the horse and to make him plunge in the box, with the result that his

hind feet slipped from under him, and he fell heavily, and was unable to rise again. I was sent for, and found on my arrival that the horse had received an injury to the back, and that his hind quarters were paralysed. To make sure that my diagnosis was not at fault, I had him raised to his feet by strength of men; but all to no purpose—he could not stand. I thought the off hind leg was injured at its superior extremity; but as he was lying on that side, my manipulation was impeded, and, of course, it was of little moment what else was injured when the back was broken. I ordered a subcutaneous injection of morphia, and three hours after I returned, and was just in time to see him die. The paralysis had reached his fore quarters, but he was working his head and neck like a mad horse—the congestion or inflammation proceeding from the injury to the cord having reached the brain. He died in ten minutes after my return.

Post-Mortem Examination.—On having the carcase turned over, it was found that the pelvis was fractured, as well as some of the ribs about their middle third. The skin was removed, and the examination continued. On cutting into the abdomen a large quantity of blood was found, which had escaped from blood-vessels punctured by the sharp edges of broken bones. The bowels themselves were normal, the spleen thin and flabby, the liver extensively diseased, small, yellow, and exceedingly friable. Both kidneys were diseased, particularly the left one, which was simply held together by its capsule; lungs and heart healthy.

Fracture of the spinal column had occurred in two places, viz., between the sacrum and last lumbar vertebræ, and between the seventh and eighth dorsal vertebræ; simple fracture of the shaft of ileum, comminuted fracture through the acetabulum, and comminuted fracture of pubis; fracture through the upper third of five ribs on the off side, and fracture through the *lower third* of several ribs on both sides.

Examination of Urine.—Pale; sp. gr. 1016; slight precipitate of albumen; no sugar.

Microscopic.—A few corpuscular elements and epithelial cells.

Bones.—Light and spongy.

THE EDITOR'S POLICY.

In taking over the Editorship of the Veterinary Journal I have determined to pursue a definite line of policy, which I propose now to lay before my readers.

I know quite well that a journal which, pretending to be an organ of public opinion, degenerates into becoming the mere mouthpiece of a clique, or even of a party, is certain to fail. Nothing is so fatal to a newspaper or magazine as rigidity. When the public finds that the opinions in a particular journal have become stereotyped and can be guessed beforehand, it quickly loses all interest in the publication, and goes to seek inspiration elsewhere. My intention is to make the VETERINARY JOURNAL, as far as my judgment permits, a fair and impartial tribunal where all kinds of questions affecting the welfare of the veterinary profession may be discussed, and will receive a patient and attentive hearing. I have, as probably some of my readers —especially of the younger generation—are quite well aware, very pronounced and definite opinions on many points, and I shall take care to enunciate and defend these opinions when occasion demands, but I am not going to be so foolish as to try to cram them down the public throat at the point of the bayonet. I will here quote the pregnant words of J. R. Lowell as expressing my opinion better than I could express it myself:—"There is a principle underlying every phenomenon in human affairs, but there are always two sides to every question, both of which must be fully understood in order to understand either; further, it is of greater advantage to an advocate to appreciate the strength than the weakness of his antagonist's position."

I am prepared, then, to make the pages of the VETERINARY JOURNAL, like the pages of more ambitious periodicals, the arena in which the athletes of our profession may display their strength. Here they will find a fair field and no favour. I shall rejoice to see the younger bloods wrestling with one another and striving for the honour of the world's applause.

I shall permit no personal animosity to show itself, no spitefulness or vindictiveness. Opinions may be assailed, even my own august editorial opinions, with the utmost vigour, but private character must be regarded as sacred. Nothing is to me so contemptible and so loathsome as a public journal which has become a theatre for the display of ignoble feelings, and of bitter, rancorous, narrow prejudice.

In commending this new venture of mine to the indulgent consideration of the veterinary and medical public, I rely upon the spirit of fairness, the disposition to give every man a chance of defending himself, which has ever been the characteristic virtue of the British reading public.

THE LATE PROFESSOR WALLEY.

WIDESPREAD regret will be felt in Edinburgh, and in veterinary circles throughout the country, at the announcement of the death of Professor Walley, who for 20 years had occupied the position of Principal of the Royal (Dick) Veterinary College in Clyde Street. Professor Walley's first connection with the College was in 1871, when he was appointed Professor of Anatomy. Two years or so later a rearrangement took place, whereby he was made Principal and Lecturer in Veterinary Medicine and Surgery, Obstetrics, and Materia Medica. The fortunes of the College were at that time at a very low ebb, and it was in great measure due to the Principal's untiring industry and zeal in the performance of his manifold duties that the school gradually rose to the high position which it now occupies. It is only two years since he celebrated the attainment of his majority as a teacher of veterinary science by delivering an inaugural address at the opening of the seventieth session of the College, and he then expressed his gratification at seeing in the large audience of students before him the evidence of the success of his many years of labour. The Professor was a great favourite with his students, whom he always treated with kindness, and in whose welfare, both present and future, he took an almost fatherly interest. He was for many years a member of the Council of the Royal College of Veterinary Surgeons, and took an active part in its deliberations, and in 1884 he was elevated to the presidential chair. He was a strong supporter of the party in the Council that strove for progress and the raising of the educational standard required for obtaining the diploma of the College. Besides carrying on tutorial work at the Dick College, Professor Walley was engaged in an ever-increasing practice, and his professional skill was sought after, not only all over Scotland, but also across the Border. For many years he has held the office of Veterinary Inspector for the City of Edinburgh, and he was also Inspector under the Board of Agriculture; but, despite his multifarious duties and engagements, he found time to write some important educational works, besides numerous papers on veterinary science, which have appeared from time to time in the professional journals. He took a great

interest in the question of the transmissibility of diseases from animals to men, and relative questions of public health coming within the sphere of the veterinarian. At the beginning of the present session the Professor was found to be suffering from phthisis, and a change to a milder climate was ordered by his medical adviser. Accompanied by Mrs. Walley, he went to Jersey, where, after little more than two months, the intractable disease ran its rapid course. Professor Walley will be much missed in scientific veterinary circles, by his colleagues at the Dick Veterinary College, and by a large number of old students, many of whom are now occupying high places in the profession. He leaves behind him a wife, one son, and three daughters, one of whom is married to his old pupil, Professor M'Fadyean, who was this year appointed Principal of the Royal Veterinary College, London.

ON SOME RECENT ENACTMENTS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

In discussing this delicate matter I feel that I am treading on very thin ice. I fear that I can scarcely claim to be an impartial judge when my personal interests are so largely concerned, and I frankly avow that what I am going to say is a bit of special pleading, and must be regarded as such. Still, I am true to the principles which I have proclaimed above, and I acknowledge that there are two sides to this as to all other questions, but I am ready to debate in a quiet and dispassionate manner the important subject of veterinary education, to which I have devoted so large a portion of my professional career.

I would begin by reminding my readers that veterinary education has not yet attained national recognition, nor the importance which it deserves. There are just four colleges in the United Kingdom where veterinary science is taught, and of these four three are in Scotland—namely, Professor McCall's, in Glasgow, and the Dick College and my own in Edinburgh. All the Scottish colleges owe their origin and their prominence and efficiency to private enterprise. A good deal of private capital is invested in these concerns, and the prosperity, I might say the personal security and the very life, of many individuals may be affected by hasty or inconsiderate legislation. It might not require a great deal

to throw the balance of the profit and loss account of these institutions on the wrong side, and if they were once closed and the teaching-staff dispersed, it might not be so easy to reconstruct them. Perhaps this is a matter of little importance, except to the victims.

My next plea is that to raise suddenly the standard of qualification for entering our profession, besides proving injurious—possibly fatal—to the colleges, may unduly discourage the young men of the country, and inflict an injury upon the whole nation. It is quite intelligible that some members of the profession, either from selfish or from mistakenly refined motives, may wish to see the number of their possible competitors reduced to within narrower bounds. This is one of the weaknesses of humanity. We wish, nay, we demand with much clamour, that every door be left open for our entrance; but as soon as we have entered we fancy that the room is quite full enough to be comfortable, and we become as clamorous for the shutting of the door as we were formerly for its opening. But what about the people who are still outside? Have they not equal rights? Are we sure that they have not the same claim to admission? Here is the crux, here lies the kernel of the whole matter. Let every man put this question honestly to himself and give an honest reply. I wish to impute false motives to no one, to judge no man harshly: I merely desire that this important matter be considered in all its bearings, in order that there may be no vacillation in the policy of the Royal College. At the same time it is my duty, as an old and experienced teacher, to place the results of my experience before the world, and warn my professional brethren of the risks which they seem to me to be running. My experience of life, and it is a long one, is that the establishment of a false principle is always fatal, and always reacts on those who establish it.

I would be glad to see the standard of general culture raised, if it were possible to do so with safety; but I always feel that to impose a merely literary test on our candidates is not the best and surest way of discovering the men who are likely to turn out the most capable surgeons. We may select thereby studious men—men who will distinguish themselves in the laboratory or the dissecting-room, and may write learned treatises—but the number of such men that we require is very small indeed compared with the number of strong, active, vigorous men who have to face the tasks of the ordinary practitioner. It is quite right to impose a severe literary test on young men entering a literary

profession, such as the Church, the Law, or the Schools, but it is quite a different case when we have to deal with those who are preparing for a scientific career, and still more so when the career is beset with so many practical and physical difficulties as is that of the veterinary surgeon. A distinguished military officer, a man of great tactical skill and profound knowledge of the world, who is now well up in years, said once that if the present rigid system of entrance examinations had prevailed when he was a lad, he could never have passed them.

It occurs, rather appropriately for my argument, that a mistake of this very nature has been committed by the Scottish Universities; and I cannot refrain from quoting, in support of my contention, a few passages from a very severe article which appears in the *Scotsman* of December 8th:—

> The results of the first examinations held by the Board in October were published recently, and they are both surprising and disappointing. The total number of candidates who offered themselves in Arts and Science and in Medicine in the four Universities was 1,850, and of these no fewer than 856, or 46 per cent., failed. That is to say, the gates of the Universities have been closed for the present session against nearly one-half of those who proposed to enter them. The result reflects severely on the secondary schools of the country, for it means that about one-half of the scholars whom they prepared for the Universities are, according to the standard of the University authorities, unfit to enter them. . . .
>
> The outcome of the examinations as a whole casts grave doubts on the wisdom with which the scheme has been carried out. It is certainly very desirable that the standard of entrance to the Universities should be raised, but it is surely indiscreet to force the standard up with undue haste and suddenness. The result of such a course is injurious to the Universities, perplexing to the secondary schools, and disastrous to the unsuccessful candidates. To take the lowest ground, the Universities can ill-afford to dispense all at once with nearly one-half of the students who, under the former conditions, would have been admitted within their walls. The rejection of 856 students means a loss to the University incomes of at least £8,000—£2,000 to each University on the average, and £3,000 to each of the largest Universities. Moreover, to a large proportion of the students who had prepared themselves to meet the former standard, this sudden elevation must bring serious consequences. It means that many young men who had devoted themselves to professional life will be excluded from that mode of earning a livelihood at an age which will disqualify them for engaging in other pursuits. That is obviously unfortunate, if not unfair. The policy is unjust to the secondary schools which prepared their scholars for the Universities; it is unjust to these Universities, which depend on the schools for their annual supply of students; and it is, therefore, unjust all round. The blame for this untoward result rests, of course, not with the Commissioners, but with the joint Board of Examiners which they created, and which has evidently indulged to an unwarrantable extent the proverbial tendency of new brooms to sweep clean.

The *Scotsman* then proceeds to give details of a new Uni-

versity body, to be shortly created, which shall control the operations of this over-zealous Board of Examiners.

As for the extension of the curriculum in point of time, it might be thought that such a change would gratify the teachers, as giving them a longer hold on their pupils. But it is a sword which cuts both ways. An additional year's fees, an additional year's board and lodging for his son, a diminished chance of admission to other careers on account of age, should that son fail at the end to satisfy the examiners—all these are very serious considerations to the average parent, and make him reflect carefully before he sends his boy to study veterinary medicine. These are democratic days, and men are averse to everything that savours of monopoly or exclusiveness. We may be sure that Demos will insist on his rights, whatever they may be found to be, and we veterinary teachers cannot blame him, seeing that he supplies, and has all along supplied the best—that is, the hardest-working pupils for our schools.

FOREIGN BODY IN THE PHARYNX OF A COW.

FRANK B. PEARSON, M.R.C.V.S., CHESTERFIELD.

THE peculiar penchant which cattle have of collecting and ingesting foreign bodies, such as nails, tin-tacks, needles, &c., is well known; but, as a rule, these bodies pass through the pharynx and œsophagus without causing any injury to these organs; the favourite seat for their lodgment being the reticulum, the mucous membrane of which seems almost to have been arranged purposely for their interception. An exception to the general rule will, however, be found in the following case.

On the 28th November last I was desired by a client to see one of his cows which, he said, had not partaken of her usual mid-day meal.

The symptoms presented were as follows:—A profuse flow of saliva from the mouth; general signs of uneasiness, among which we may place frequent urination; considerable difficulty in swallowing solid food, such as hay, &c., water, however, could be drunk with comparative ease; a small diffuse swelling was found on the left side of the throat, just behind the angle of the inferior maxilla. On enquiry, I ascertained that this had not been present the day before. On manipulating this swelling the animal evinced great pain, from which I came to the conclusion that some foreign body had become lodged in the pharynx; nothing, however, could be found on passing the hand as far as possible into the pharynx.

On the following day the swelling was considerably larger. Further ineffectual attempts were made to reach the foreign body, and as the animal was in good condition, I concluded that the most satisfactory course would be to have her slaughtered. In making a *post-mortem* examination, I found a large darning needle, four inches in length, passing obliquely outwards and backwards through the left wall of the pharynx and into the surrounding structures. About half-an-inch of the blunter end of the needle projected into the pharyngeal cavity.

URINARY DEPOSIT IN THE COW.

THE occurrence of cases of sabulous deposit in the bladder is, perhaps, not so common as to render the following case entirely devoid of interest.

In October I received a sample of urine from Mr. E. W. Anderton, M.R.C.V.S., Maybole, and the following particulars of the case. I quote, as much as possible, from Mr. Anderton's letter.

"A cow had been ailing for about ten days, but had a fairly good appetite until October 8th. On October 9th there was noticed great difficulty in urination; on rectal examination the bladder was found to be much distended. This distention was relieved by the catheter." Some of the urine so obtained was forwarded to me for examination.

In the same letter Mr. Anderton says that digestion seemed to be considerably deranged, as oats were passed in an undigested state.

Notes on Examination of Urine.

Macroscopical:—Very high coloured, resembling very closely that seen in cases of "red water." On standing, a yellowish deposit formed. An abundant precipitate of albumen can be obtained. Alkaline in reaction. Sp. gr. 1020.

Microscopical:—Numerous crystals of uric acid and triple phosphate (ammonia-magnesia phosphate) are present, as well as blood and pus corpuscles, and a few fat-globules. The corpuscular elements are partially broken down, forming a glandular *débris*.

From the above examination, a suspicion was raised that it was a case of urinary deposit.

My next communication from Mr. Anderton bears date October 26th, and in it he says that the cow had died on the 25th, and that a portion of the urinary bladder had been forwarded. This portion was to be taken as fairly representative of the condition of the entire organ. It showed on the mucous membrane a deposition, to the extent of about an inch in thickness, of sabulous matter (principally triple phosphate). The muscular coat was considerably thickened by the formation of fibrous tissue, showing that the irritation must have been of considerable duration.

The point I wish to emphasize is the great assistance to diagnosis afforded by a microscopic examination of the urine in such cases; for, as in this instance, manual examination, per rectum, may give negative results.

My thanks are due to Mr. Anderton for the kind manner in which he placed his notes at my disposal.

THE ANTI-TOXIN EXPERIMENTS.

THE news that the Metropolitan Asylums Board had sanctioned experiments in their hospitals in the use of the anti-toxin cure brought a deputation to the Board on Saturday to present a memorial against the proposals. The deputation was largely composed of ladies, but it was introduced by Lord Coleridge, and included Canon Wilberforce, Canon Percy Smith, Mr. Pickersgill, M.P., and Mr. Cyril Drew.

Lord Coleridge explained that the deputation had been got together in a hurry because it was announced that the Board would that day receive a report from the General Purposes Committee in favour of giving the medical superintendents in their fever hospital facilities for applying a remedy known as anti-toxin treatment. The General Purposes Committee inquired of the Colleges of Physicians and Surgeons, and the British Institute of Preventive Medicine, upon what terms they would supply the anti-toxin; and the substance of the reply was that these colleges were prepared to supply the anti-

toxin to the medical superintendents if the Board would provide accommodation for keeping on one of their farms a number of horses, and pay the incidental laboratory expenses. He understood that the General Purposes Committee had decided to accept the proposal upon the terms offered. Upon the knowledge of that decision the deputation determined to come and make their views clear to the Board. Plainly put, what was asked was that the Board should keep several horses at the public expense; the horses were to be inoculated with a quantity of serum to be supplied by the colleges, these horses thus inoculated were to be bled, and it was calculated that each horse would supply a gallon of blood a week, and that the blood thus obtained was to be used for the purpose of inoculating patients in the hospitals under the control of the Board, with the view of mitigating or curing the evils or dangers of diphtheria. What the deputation wished to submit was that public money should not be devoted to experiments in physiology, where the patients were not in a position clearly to understand the bearings of the question and the experiment to be performed upon them. It ought first to be proved that inoculation was a cure, and that while it cured one thing it caused no danger of anything else. He reminded the Board of the failure of Professor Koch's cure for consumption, and other vaunted cures that had failed, and quoted Professor Bergmann and Professor Virchow as dissatisfied with anti-toxin treatment.

None of the managers asked members of the deputation questions, and upon its withdrawal the clerk read the return of the patients in the Board's hospitals, showing that the fever patients numbered 2,807, including 446 diphtheria cases. Small-pox patients numbered thirty-one.

Mr. Scovell then presented the report of the General Purposes Committee, which recommended the adoption of the offer of the Royal College of Surgeons to supply anti-toxin. He moved its adoption, and was seconded by Sir J. Tilley. An amendment that the report be postponed for three months was moved by Mr. Brass and seconded by Mr. Robins. A discussion took place, but in the end the amendment was rejected by thirty-eight votes to seventeen votes, and the report adopted.

POLICE AND "THE CONTAGIOUS DISEASES (ANIMALS) ACTS."

THE following letter appeared in a Scotch newspaper:—

SIR,—I notice in your issue of Thursday last a paragraph stating that all the constables in the county of Perth have been appointed inspectors under the Contagious Diseases (Animals) Acts, and that veterinary surgeons are only to be called in special cases. The notice states that this is the first county in Scotland to have adopted this plan, but I greatly fear that the example of the Perthshire authorities will prove as contagious among other local authorities as any of the diseases they are called upon to suppress. This action may seem an advantage from a ratepayer's point of view; but one fails to see how a constable, uninitiated in matters relating to diseases in animals, can carry out the law as efficiently as a professional man; and, besides, the constables so appointed are saddled with a responsibility of which only those who have had something to do with the working of these Acts know the weight. When an inspector under these Acts receives information in any manner whatsoever of the existence of disease, or supposed existence of disease, or has reasonable ground to suspect the existence of disease, he must proceed at once to the place where the disease exists, or is suspected to exist, and must there and elsewhere put in force and discharge the powers and duties conferred and imposed on him as inspector by the Contagious Diseases (Animals) Acts, and any Order of Council, and any

Order of the Board of Agriculture. Now, this may seem simple enough to an outsider; but when it is stated that since the passing of the Act some 5,000 Orders have been issued by Her Majesty's Privy Council and the Board of Agriculture, all of which deal with the duties of an inspector in some way or other, the simplicity disappears at once. The Acts themselves, and these Orders, which are continually being revoked or amended by new Orders, together with regulations issued by local authorities, are of the most intricate character, and are so linked and warped through each other that it is almost impossible to read them aright. My purpose in writing is not to find fault with these Acts or the Orders relating thereto, but to question the power of local authorities under these Acts to appoint a constable an inspector under these Acts without even saying "by your leave," and in all probability without either fee or reward. The Acts give certain powers to and impose certain duties on the police, but give no power to appoint the police as inspectors to local authorities. I submit that local authorities appointed under these Acts are not the police authorities in any county, and have no power to compel constables to act as inspectors under these Acts. The carrying out of these duties of an inspector to the local authority is, I maintain, not police duty; and where the hardship lies is that, should a constable so appointed make a mistake in carrying out the intricate orders referred to, he would be dealt with by his chief-constable for neglect of duty, and punished by fine, reduction in rank, or dismissal. It may be thought that this is an imaginary picture of what might occur; but such is not the case. It is a serious matter, and one which may affect constables of all grades, and which they would do well to look to. The police have many responsibilities already, and it is unfair to load them with others which should not be theirs.

Parochial Boards have as much right to call on the police to carry out the provisions of the Poor law, or County Councils to use them as road surveyors, as local authorities have to appoint them to carry out the details of the contagious Diseases (Animals) Acts.

Proceedings of the Royal College of Veterinary Surgeons and Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

A MEETING of the Council of the Royal College of Veterinary Surgeons was held on Wednesday, 28th November last, at 10, Red Lion Square, Bloomsbury, London. Present:—Mr. William Hunting, President, in the Chair; Professors Edgar, McFadyean, Williams and Shave; General Sir Frederick Fitzwygram; Messrs. Dollar, Elphick, Faulkner, Hartley, Kidd, Lawson, Mason, Mulvey, Simpson, Trigger, Wheatley, Wragg; and Mr. Robinson (Assistant Secretary).

The ASSISTANT SECRETARY read the notice convening the meeting.

Professor MCFADYEAN called attention to the omission from the agenda paper of a resolution regarding the holding of examinations which he had given formal notice of his intention to move at the Council meeting in July last.

The PRESIDENT said he thought the omission was due, on the last occasion, to the fact that the Bye-Laws Committee had embodied a somewhat similar resolution in the Bye-laws which would be discussed in January. Probably the omission on this occasion was owing to the illness of the Secretary.

Professor MCFADYEAN thought it an extraordinary thing that a Committee should take upon itself to suppress a notice of motion because they thought they were bringing on something similar.

The PRESIDENT said he did not say the Committee had suppressed it. He

thought the Secretary laboured under the mistake that it was embodied in the motion with regard to the new Bye-Laws, and therefore had not put the motion on the agenda paper. He would take care that it was put on the agenda for the January meeting.

Minutes.

The ASSISTANT-SECRETARY read the minutes of the last quarterly meeting.

At the request of Mr. J. F. Simpson, the ASSISTANT-SECRETARY read the minute referring to the Farriers' Company again.

Mr. J. F. SIMPSON objected to the minute. He thought the proposition of Mr. WRAGG had been negatived.

Professor MCFADYEAN thought the minute was correctly recorded.

Professor WILLIAMS said he would be glad to give any explanation required in reference to the minute with regard to the letter from Professor McCall, relating to the certificate about the Sydney University.

On the motion of Mr. MASON, seconded by Mr. MULVEY, the minutes of the last quarterly meeting were confirmed.

Correspondence.

The PRESIDENT read a letter from the Medical Defence Union, drawing the attention of the Council to the fact that a Fellow of the College was using his qualification as if it were a qualification to practise as an ordinary surgeon.

On the motion of Mr. J. F. SIMPSON, the matter was referred to the Registration Committee; and at the suggestion of the PRESIDENT, it was agreed that a letter should be sent to the secretary of the Medical Defence Union, informing him of what had been done.

On the motion of the PRESIDENT, a letter with regard to Mr. Coulson was also referred to the Registration Committee.

Steel Committee's Report.

The PRESIDENT stated that the Committee had not yet been enabled to report, and the matter would have to stand over.

Registration Committee.

The PRESIDENT said that there were no prosecutions requiring the seal of the College.

Election of Member of Farriers' Registration Committee.

Mr. WRAGG moved, "That Mr. Trigger be elected in Mr. Dollar's place as a member of the Farriers' Registration Committee."

Mr. SIMPSON seconded the motion.

Mr. TRIGGER thought that someone living nearer London ought to serve on the Committee. Mr. Simpson would be a better man to act.

Mr. SIMPSON said he would rather not serve on the Committee.

Professor EDGAR moved as an amendment, "That the appointment be not refilled."

Professor SHAVE seconded the amendment.

Mr. J. A. W. DOLLAR asked if he would be in order in making a few remarks on the subject, in support of the amendment?

The PRESIDENT: Certainly.

Mr. J. A. W. DOLLAR said he wished to review the action of the Registration Committee. The Registration Committee started in 1890 with the object of instructing, examining, and assisting in apprenticing farriers. Since that time it had registered some 4,000 men, out of whom it had practically examined 216, and 3,749 were passed on what the President declared to be a fraudulent examination.

The PRESIDENT objected to such a statement.

Mr. DOLLAR said the President had described the examination as a fraud on the public.

The PRESIDENT said the 3,000 men were not passed by examination.

Mr. DOLLAR said he was referring to persons who were not passed by examinations.

The PRESIDENT said that if they were not passed by an examination there could not have been a fraudulent examination.

Mr. DOLLAR said there was a pretence of examination.

The PRESIDENT said there was no pretence. They were not registered by examination at all.

Mr. DOLLAR said the examination to which the President had referred as being a fraud on the public was that conducted by Dr. Fleming, in which the men were examined for five minutes in a little underground office at Lawrence Pountney Hill, and after a few questions, occupying not more than five minutes, received their certificate, and were sent forth to the world as registered shoeing smiths.

The PRESIDENT said he did not object to that statement, but he objected to the assertion that 3,000 men were examined in that way. Those figures included those who were admitted without examination mostly on veterinary surgeons' testimonials.

Professor WILLIAMS asked if it was fair to make a charge against Dr. Fleming when he was not present to defend himself.

Mr. DOLLAR said the charge had been already made public, and Dr. Fleming had, unfortunately, not been able to meet it or say anything in deprecation of the charge. If Dr. Fleming, when the VETERINARY JOURNAL was still in his hands, had wished to defend himself he had every opportunity. The fact remained undisturbed that 3,749 men had been registered, either with no pretence of examination or after a fraudulent examination. That in itself should make the Council pause before continuing its support. But when the recent developments of the scheme come to be considered he did not think they justified the Council's continued support. Its present examinations consisted apparently of registering men who had been examined by agricultural societies, and the examination conducted by the Farriers' Company itself was one only in name.

Mr. TRIGGER said the agenda paper did not give an option of considering whether they should elect or not. Unless Mr. Dollar's remarks were against some particular individual he thought Mr. Dollar was out of order.

Mr. DOLLAR said the outcome of that position would be that they would be unjustified in moving any amendment.

Mr. TRIGGER said Mr. Dollar might object to an individual member of Council, but there was no power to do anything at that meeting except to proceed to election upon the agenda paper.

Mr. DOLLAR thought there was a middle course, viz., to refrain from doing anything, and he was speaking in support of that policy. Within the last two years there had been numerous and acute complaints from a large number of country members of the injury which had been done to them by registered shoeing smiths using their title and the letters "R.S.S." Those complaints could not be very much longer ignored. Another argument in support of the policy of not re-electing a member, was the fact that at the present time the Registration Committee was almost insolvent, and that there were grave signs of the Royal Agricultural Society seceding from it.

The PRESIDENT said that within the last six weeks the Royal Agricultural Society had approved of the work done by the Farriers' Company. He had seen the Annual Report of the Farriers' Registration Committee and one thing it said was, ". . . . thus showing that throughout the year 149 smiths have been examined, and 115 passed."

Mr. DOLLAR said they had been examined by agricultural societies in their forges, by their examiners, and had been registered by the company.

Professor PENBERTHY said the matter was regarded by the profession as important, and he did not think it should be voted upon until Mr. Dollar, or any other gentleman, spoke. He proposed that Mr. Wheatley should be elected a member.

Mr. DOLLAR pointed out, in confirmation of his statement, that the Farriers' Company now had only £14 5s. 6d. at their bankers.

The PRESIDENT stated that it was not necessary that the member elected should be a member of Council. Any member of the profession was eligible. If anyone wished to bring, as a clear issue before the Council, that they should cease their connection with the Registration Committee, the proper thing was to put it down on the agenda paper, and give proper formal notice to the secretary.

Mr. SIMPSON proposed that Mr. Fraser be elected.

Mr. LAWSON seconded the proposition.

Mr. FRASER said he would be pleased to undertake the work, as he thought it would be a pity for the Council to lose the influence they had on the Farriers' Registration Committee. He thought the veterinary aspect should be represented there as strongly as possible.

The motion for the election of Mr. Fraser was carried, 10 voting for, and four against.

Examination Models and Instruments.

The PRESIDENT said the Council had decided that some models and instruments should be bought, and had written to the examiners for suggestions.

Mr. MULVEY moved—"That the question of the purchase of models and instruments be referred to the Examination Committee."

Mr. TRIGGER seconded the motion.

Mr. SIMPSON said he was in favour of providing a liberal number of models and instruments, but he thought the Council should limit the amount to be expended.

Professor MCFADYEAN thought a limited sum would suffice. He was in favour of fresh preparations in preference to models.

At the suggestion of Mr. WRAGG, Mr. MULVEY agreed to add the words, "at an expenditure not exceeding £100.

The amended motion, "That the question of examination models and instruments, be left to the Examination Committee to choose and purchase them, at an expenditure not exceeding £100," was agreed to.

Election of Examiners.

Mr. MULVEY moved, "That the election of examiners be referred to the Examination Committee, who shall report to the next meeting of Council."

Mr. TRIGGER seconded the motion, and, after some discussion, it was carried, 12 voting for, and three against.

Four Years' Course of Examination.

On the motion of Mr. MASON, seconded by Professor PENBERTHY, it was resolved, "That the provision for the introduction of a four years' course of examination be referred to the Examinations Committee to report to the Council at the next meeting."

Revision of Register.

The PRESIDENT said the Register would have to be out somewhere about February, and the Council would like it out as soon as possible after the Council met to settle the Bye-Laws.

On the motion of Mr. MASON, seconded by Mr. MULVEY, the matter was referred to the Publication Committee.

Motion by Professor W. O. Williams.

Professor WILLIAMS said he supposed the dates of the next examinations were already fixed, and the motion of his son's now fell to the ground. It was intended to come up at the January meeting, and he would like to know why a meeting had been called in November.

The PRESIDENT stated that the reason for holding the meeting was because it would have been impossible to get through all the work which would come up at the January meeting, and also because there were one or two things requiring immediate attention. After what Professor Williams had said, the notice of motion standing in the name of Professor W. O. Williams, "That at this meeting the dates of the next examinations be fixed," would not be proceeded with.

Other Business.

Professor MCFADYEAN said he wished to bring before the Council a question as to the place where the students should pay their fees. The most convenient arrangement was that the fees should be paid at the College. The rooms would be put at the disposal of the Secretary and his assistant, and the students could come up in an orderly manner and pay their fees. He would like the Council to direct that the thing should be done in that way. It was the invariable practice in Scotland for the Secretary to attend at the College and collect the fees.

Mr. MULVEY said it had been the custom for the last three or four years for the fees to be paid at the College.

Professor MCFADYEAN said with some exceptions, and the last time was an exception.

Professor WILLIAMS moved, "That the Secretary of the R.C.V.S. shall attend at the Royal Veterinary College, Camden Town, to collect the students' fees, at dates to be agreed upon between the Principal and the Secretary until further notice."

Mr. SIMPSON seconded the motion.

Mr. TRIGGER moved as an amendment, "That the Secretary be instructed to attend at Camden Town to collect the students' fees on this occasion at the Christmas examinations."

Mr. MASON seconded the amendment.

After a lengthy discussion the amendment was put and lost, five voting for and 10 against.

Professor WILLIAMS' motion was then put and carried, 12 voting for, and four against.

Mr. TRIGGER (with the President's permission) presented the Report of the Jubilee Memorial Committee, and moved, "That the Report of the Jubilee Committee be received and adopted."

Mr. MASON seconded the motion, which was agreed to.

In answer to Mr. Hartley,

The PRESIDENT said that the matter of Mr. Coulson would be brought up at the next quarterly meeting.

Mr. SIMPSON, as President of the Registration Committee stated that the Committee had investigated a large number of cases, and proposed to make their Report at the January meeting of the Council.

A vote of thanks to the President terminated the meeting.

THE Jubilee Memorial Committee, composed of the President and members of the Royal College of Veterinary Surgeons and influential representatives of the profession generally, met at the College Building, Red Lion Square,

when it was decided (1) that the memorial should take the form of a scholarship or bursary to perpetuate or recognise the services of Messrs. Goodwin, Mayer, Dick, Sewell, Spooner, and Simons, who obtained the first charter for the Royal College of Veterinary Surgeons in 1844; (2) that a memorial tablet bearing those names be placed within the College building; (3) that the bursary or scholarship be applied as recommended by this committee, subject to confirmation by the Council of the College; (4) that to carry out the above-named objects an appeal for donations be made to the profession generally, and to the various medical societies. A subscription list was opened, headed by a donation of £50 from the Council of the College, and a like contribution from the Midland Counties Medical Veterinary Society. It was proposed that individual contributions should be limited, but this was negatived, and it was resolved to fix no limit, leaving the members of the profession free to give according to their means and inclinations.

Examinations.

THE Written Examination in the various classes was held on December 10th, in London, at the Examination Hall of the Royal College of Physicians and Surgeons, Victoria Embankment, and the Oral Examination at a meeting of the Court of Examiners held at 10, Red Lion Square, on and between December 11th and 13th, 1894, and the Practical portion of the Final Examination at the Royal Veterinary College, Camden Town, on and between December 12th and 14th, 1894.

The following students passed their Final Examination :—

Mr. C. Hoole
„ W. J. Foreman
„ A. H. Towne
„ H. L. Roberts
„ H. Walpole
„ W. James
„ J. E. Parrett
„ C. A. A. Ewin
„ F. F. G. White
„ H. Bowker
„ J. W. Baxter
„ A. H. Clapp
„ T. G. Frost
Mr. S. Pennington
„ H. Reynolds
„ A. P. Calastreme
„ B. Franklin
* „ G. W. Freen
„ T. K. Henton
* „ T. E. Jones
„ E. M. Jarvis
„ H. E. T. Mason
„ F. C. Robertson
„ H. Sturge
„ F. Thornton
„ W. A. Wood

The following students passed their Second examination :—

*Mr. J. H. Burnett
„ F. W. Cox
* „ A. J. Curtis
* „ G. Conder
„ W. Dennington
„ H. B. Eve
„ R. Gilbey
* „ T. S. Grove
† „ W. C. Gillam
* „ A. H. Grimes
„ J. P. Heath
† „ T. B. Hodgkinson
* „ J. Hughes
„ R. J. Houston
†Mr. W. J. Heley
† „ R. Hudson
„ O. Johnson
„ S. W. Jones
„ W. Mulvey
„ R. C. Mathews
„ J. S. Pike
† „ C. Peirce
* „ Platt
„ S. W. Pratt
„ J. Pugh
† „ B. Sumner
* „ E. Stanley
* „ R. D. Thomas

Marked thus * passed with Second Class Honours.
Marked thus † passed with First Class Honours.

Second Examination—*continued.*

†Mr. G. Watkins
† „ C. E. Wells
† „ J. L. Webb
*Mr. H. H. Worrow
* „ W. Wordley
* „ H. W. Youngs

The following students passed their First Examination :—

Mr. W. H. Anderson
„ R. Brennand
* „ R. W. Carless
* „ T. Elliott
„ E. T. Ensor
„ E. Fenner
„ E. T. Goodall
* „ H. Hobbs
Mr. A. S. Head
„ A. T. Hine
„ A. Hudson
„ G. P. Knott
„ J. W. Oakley
* „ C. M. Park
„ J. B. Walker
* „ W. M. Williams
„ B. Youngs

Marked thus * passed with Second Class Honours.
Marked thus † passed with First Class Honours.

ARTHUR W. HILL,
Secretary to the Board of Examiners.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A MEETING of the Scottish Metropolitan Veterinary Medical Society was held on the 21st November in the London Hotel, St. Andrew Square, Edinburgh. Mr. Harry Thomson, M.R.C.V.S., Aspatria, through the indisposition of the President, Professor W. O. Williams, occupied the chair, and the following gentlemen were present:—Principal Williams, Principal McCall, Professors McDougall, James Hunter, F.R.S.E., Ivison Macadam and O. C. Bradley; Messrs. H. Thompson, M.R.C.V.S., Aspatria; R. Rutherford, F.R.C.V.S., Edinburgh; P. Moir, M.R.C.V.S., Edinburgh; A. F. Durkie, M.R.C.V.S., Dundee; J. McLauchlan Young, M.R.C.V.S., Dundee; W. Anderson, F.R.C.V.S., Glasgow; J. Hutton, F.R.C.V.S., Kelso; G. Frew, M.R.C.V.S., Glasgow; Secretary, West of Scotland Veterinary Medical Society; Veterinary-Captain Moore, Piershill Barracks; D. Young, Editor, *North British Agriculturist*, etc.

The first business was the election of office bearers. Mr. PETER MOIR, Honorary Secretary, stated that he had written to two or three of the older members of the Society asking them to accept of the Presidency, but he regretted that most of them were unable to do so from various reasons. He nominated Mr. John Cameron, M.R.C.V.S., Berwick-on-Tweed, as President for next year. Mr. R. RUTHERFORD, F.R.C.V.S., Edinburgh, seconded the nomination, which was cordially agreed to.

Professor W. O. Williams and Messrs. Young and Durkie, Dundee, were elected Vice-Presidents. Mr. Peter Moir was re-elected Secretary and Treasurer, his nomination having been proposed in eulogistic terms by Principal WILLIAMS.

Mr. MOIR nominated the following gentlemen for membership of the Society :—Mr. Wm. R. Davies, M.R.C.V.S., and Mr. Walter Gray, M.R.C.V.S., Leith, the latter being a graduate of Clyde Street College and the first of the younger members from that school, whose example, he hoped, would be soon followed by others.

Anthrax.

The next subject on the billet was "Discussion on paper on Anthrax, by Mr. Harry Thomson, read at last meeting."

Principal WILLIAMS said that anthrax was a rather well-worn subject, and

in view of important papers on quite a fresh subject to be submitted that afternoon, he proposed that the discussion on anthrax should be deferred till next annual meeting.

This was agreed to.

Professor McDOUGALL then read his paper on the *Lathyrus sativus.*

Professor IVISON MACADAM, F.R.S.E., then gave a chemical report on *Lathyrus sativus.* His analysis of the Indian variety was as follows :—Water, 14·28; oil, 2·88; albuminoid, 21·62; carbohydrates, 53·12; cellulose, 5·26; and ash, 2·84. It would be noticed that while he gave 2·88 for oil, Church only gave 0·9, so that his proportions varied a little from the others. The ash constituents seemed to be very similar to those of other allied substances, and there was no great difference to be found. There was one serious point in the analysis, and that was that it did not show anything which would lead one to suspect a poisonous material. The analysis was a perfectly well-balanced one, and, if sent to a chemist in the ordinary way, would be passed as a good feeding stuff. There was nothing to indicate that there was anything irregular, and it might be passed as a fairly good feeding material, unless, of course, it were noticed carefully under the microscope, when they might get some indication of the poison. There was no doubt that in mixed feeding cakes they had had cases of damage, which they could not ascribe to any particular poison in our present knowledge. The ordinary chemical analysis showed nothing to indicate anything particularly wrong. He was not yet clear as to the poisonous substance, because it was rather a serious matter to indicate plainly at first, until they had considerable experience. They had several instances now, in which they had isolated a white crystallised substance, which was nitrogenous, and which appeared also to be alkaloidal, but he would not like to say that that was the cause of the poison. At the same time, there was a certain change which took place when they allowed the peas to ferment. They would require to take the botanical characters as the first stage in showing the presence of poison.

Principal McCALL then gave a clinical report on the nature of *Lathyrus sativus.* He felt that he had nothing to say, as Professor McDougall had dealt to a considerable extent with the clinical aspect. He thought the point of greatest importance was to be able to detect the poison in the early stage, before many deaths had occurred. He thought there was no great difficulty, if once they had a little experience in the matter. There were no premonitory symptoms. An animal was suddenly seized with a difficulty in breathing, and fell dead. In some cases the driver had become conscious that the animal was affected, as it made a noise with its breathing, and sooner or later it became so loud and urgent that the animal came to a standstill. The worst roarer was not to be compared to an animal labouring under this disease. The animal also stretched out its neck, and its tongue became quite blue in colour, and there was a heaving at the flank. The premonitory symptoms were just sudden difficulty in breathing, as if they had thrown a rope round the animal's neck and tightened it. In other cases, the horse got weak in its limbs. Excitement had a most wonderful effect in horses. At Bristol, one of the horses had been in the habit of being always fed first. One day, the men did not feed him first, but fed his neighbours on each side. The horse got into such a state of excitement at this, that he commenced to breathe hard, and, after knocking himself about for a few moments, he fell down. They sent for a veterinary surgeon, but it was twenty minutes before he came. The horse was then lying as if dead, but still breathing. It afterwards got better, and this was simply excitement, brought on by a paroxysm due to the difficulty in breathing. The Principal then quoted from a lecture delivered by himself on the poisoning of horses, which appeared in the *Veterinarian* of November, 1886, and in which he described an outbreak that

occurred that year in Falkirk. He specially emphasised the point that there was no fever in connection with this disease. From what he had seen, he was clearly of opinion that cooking destroyed the poison. As an experiment, he had steeped the peas in a pot and given them to the horses in small quantities, and there were no bad effects. Then he had experimented with vetches on sheep and cattle, and they had no bad effect, and he knew as a fact that there were thousands of bushels being used every day as bone meal. He had not the slightest doubt the reason why they were apparently so safe was that the dairyman, when he used bone meal or peas meal, invariably scalded them well, because he knew they would bring on indigestion and kill his cows. He was of the decided opinion that, whatever the poison, it was cumulative, and he also entertained the opinion that its power would be destroyed by adulteration or cooking. At the Bristol trial, all the witnesses admitted that the peas had not been used in the raw state, but had been ground up, and found their way into cakes.

Principal WILLIAMS gave a short description of the symptoms displayed by horses which had come under his observation in Liverpool, and said the symptoms differed from those described by Professor McCall in so far that there was a distinct engorgement of the throat. He saw the horse just after it had died; in fact, the carcase was quite warm, and the skin was being removed as he entered the horse-slaughterer's yard. There was great engorgement around the throat, which, on the skin being removed, was seen to consist of very dark-coloured blood, surrounding and invading the larynx. This extravasate also contained large coagula of sulphur-coloured lymph, such as described in the Ludiana disease seen in India, and identical with what he had seen in undoubted anthrax in the horse in this country. He prepared some slides, for microscopic examination, on the spot, and found the blood and exudate teeming with bacilli, similar, but rather smaller, than the *Bacillus anthracis*. He found the *Lathyrus* was of the dark and smaller kind, and very dirty, containing, amongst other filth, the excreta of some rodent, and, on cultivating this dust, a bacillus was developed identical with that seen in the blood, but he failed to cultivate the organism from the meal after the grain had been washed. Principal Williams was, therefore, of opinion that the organism was in the dirt only, and that the disease arose from entrance of this organism into the animal economy. He had now reason to think that in the Liverpool outbreak there had been a combination of causes, viz., the *Lathyrus* poison, whatever that may be, and the bacilli. The white kind of *Lathyrus* had only been known to him for a short time, and he had received a sample, a day or two ago, from Newcastle, of the white kind, mixed with ordinary peas, perfectly free from dirt, but the horses that were fed upon it were becoming roarers. One thing he had noticed in Liverpool was that there was great congestion of the lungs, and that the blood generally had that dark appearance which was characteristic of anthrax disease. The matter required a good deal more investigation. If it was an alkaloid it was difficult to understand how heating would destroy it.

Captain MOORE, A.V.D., said that as he had been to the East he would be supposed to know something of this disease, but he was sorry he could throw no light on the subject. When in Africa their horses were fed on oat straw, and they also gave them Indian corn. They had trouble with the Indian corn but none with the oat straw. When in Afghanistan they fed their horses on barley. In Candahar they had to give the horses wheaten straw, trodden very fine by bullocks. They had any amount of trouble with the Indian corn in India, and also with the barley in Afghanistan. When grain was ordered or sanctioned by the Government they were obliged to feed their horses on that particular grain, and if there was any mixture it would be rejected. Consequently he had no experience of *Lathyrus sativus*. The only thing

approaching the symptoms described was wind-stroke in India. It was a sort of paralysis, but they did not know how it occurred. It was supposed to be caused by a chill in the night, or perhaps at three o'clock in the morning, the coldest part of the day. It struck him that if the *Lathyrus sativus* seeds were steeped, and then given to the horses in small quantities, they might become a valuable food.

Principal McCALL again briefly spoke for the purpose of pointing out the value of tracheotomy in connection with this disease. He said that tracheotomy not only saved the life of the animal, but actually led to the elimination of the poison from the animal quicker than if the animal had been at rest.

Principal WILLIAMS: Could they work without the tube afterwards?

Principal McCALL: Oh, yes. That is one of the points I am particularly anxious about—that tracheotomy not only saves the animal's life, but puts him back to his work immediately.

Principal WILLIAMS: I am sorry some of the Newcastle people are not here to-day. They said the horses still died in Newcastle after the operation had been performed.

Principal McCALL: They did not do so with me.

Mr. PETER MOIR, honorary secretary, speaking from practical experience in India, said it struck him very forcibly that the cases witnessed by Principal Williams in Liverpool were identical in their appearances with the Ludiana disease he had seen in India. The effusion about the trachea was often so great that he found it impossible to perform tracheotomy. The serous effusion was of a bright yellow appearance, and was solid, like a jelly, and the blood was very dark in colour. There were cases of recovery, but they were very few. He thought if a cure could be found, it would be of great service to the profession in India, who had not yet traced the real cause of the disease.

Mr. R. RUTHERFORD, F.R.C.V.S., said that two things stood out prominently in connection with this matter. The first was that the dog-tooth pea and the *Lathyrus sativus* belonged to the same class. It was also clear that both were poisonous, and produced certain effects which were fatal when used in large doses. It was news to him that there were recorded cases of this *Lathyrus sativus* being used largely in India in time of famine, and that it had been fatal among men. During his residence in India he had no information, and they passed through two famines of great severity in Bengal during that time. He had no knowledge of its being poisonous, because he never saw a case in India during the whole eleven years he was there. Perhaps the explanation was that they did not allow it to be used in large quantities. Another very good reason was that they purchased their grains from different merchants, and purchased them almost every other day. Why did he recommend his clients in this country not to use it raw? Simply because it was an Indian grain, and liable to be contaminated with one of the most dangerous Indian diseases. Anyone who had been in India knew the mode of threshing grain and storing it into places, the floors of which had not been cleaned for generations. He knew how easily it was, in a country swarming with disease, for the grain to be contaminated. They, fortunately, escaped having a single case in Edinburgh, because they boiled the grain, and this corroborated what Principal McCall had said. He looked upon the Ludiana disease as nothing but anthrax, and hearing Principal McCall's lucid description of the disease, he could not imagine, from his knowledge of clinical medicine, that the mere performance of tracheotomy would save a large number of animals' lives, whose systems were saturated with anthrax poison. He thought it was more likely, as had been pointed out, that the poison was an alkaloid, and in this case, the anthrax resembling Ludiana

disease was an accidental circumstance. He thought that if *Lathyrus sativus* was the cause of Ludiana disease, they would be able distinctly to connect the two together in India, not once, but many times.

Mr. DURKIE, Dundee, said that as a veterinary surgeon, as an agriculturist, as a miller, and as a grain merchant, he was delighted with what he had heard that day. In the last-named capacity he had been instrumental in keeping the pea out of the market in Dundee, where not a single case of poisoning had been heard of. He had great pleasure in moving a vote of thanks to Professor McDougall.

The CHAIRMAN said he knew nothing about these peas, but he was delighted with all he had heard. He thought the best thing they could do was to stick to the home produce. He had great pleasure in seconding the vote of thanks, and he hoped Professor McDougall's paper would lead to some benefit.

British Institute of Preventive Medicine.

A letter from the Royal College of Veterinary Surgeons on the subject of a grant of money to the British Institute of Preventive Medicine was allowed to lie on the table, as it was pointed out by the Honorary Secretary that the Society was not in a position to give any grant to this very desirable scheme.

Feeding Horses from Nose-Bags.

Mr. RUTHERFORD drew attention to a correspondence in an evening newspaper, the writers of which declared it was cruel to feed horses out of nose-bags. He said a lot of sentimental rubbish was being written on the matter. It was said that feeding by this means produced suffocation, and partial suffocation, and the animals led a most distressful life. His own idea was that the animals would lead a much more distressful life if it were not for the nose-bags.

These sentiments were endorsed by Principal WILLIAMS, Principal MCCALL, and Captain MOORE.

A vote of thanks to the Chairman terminated the proceedings.

YORKSHIRE VETERINARY MEDICAL ASSOCIATION.

AT the meeting at Leeds, on October 26th, Professor PENBERTHY read the following paper on

"ANTHRAX."

It was in connection with this affection that the microbe character of the cause of such conditions was first demonstrated, and, perhaps, of no other disease of our patients do we possess more positive knowledge than of anthrax. The light thrown on its intimate nature by scientific discovery affords one of the most brilliant examples of the benefits of experimental research to practical medicine, yet the work of each succeeding year seems to elucidate some fresh aspect, and suggest the appropriation of some practical measure.

In 1849, Pollender discovered the bacillus anthracis in the blood. In 1850, Davaine found the organism, and, in 1863, proved to general satisfaction that it stood in relation to anthrax or charbon as cause to effect. The work, based on the line of thought suggested by these discoveries, has been stupendous; a new era in pathology has been established, and though at the present moment medicine is in a state incident on revolution, the study of contagious disease is simplified, disease itself, especially as regards prevention, more under our control, and, gauged by the advances of the past 30 years, there is ample room for hopeful work in the future. New discovery and its relation to the health of man have given much prominence to the disease in question,

and it has come to be considered by some a new disease. The history of anthrax, however, appears coincident with the earliest mention of animal diseases. Descriptions to be found in ancient records have little room for doubt as to its existence in the East in very early times. Many writers on this aspect of the subject are quite convinced that Moses has a claim to precedence as to mention of its contagious nature in Egypt, while, in *The Record* of the current year, we may read of claims for priority in Great Britain, which extended no further back than the year of grace 1873. It may be difficult to determine the position among the events of the past five or six thousand years which will be relegated to the respective chroniclers. The history of any contagious malady, which, like anthrax, appears to have an abiding influence in a definite area, is, I think, invested with a certain degree of importance, and cannot be disregarded. There has been, I believe, a disposition to regard anthrax as something new to Great Britain, and from its apparent prevalence to-day, to draw the inference that it must be introduced from abroad. This naturally and rightly causes the expenditure of some of our energies in preventing its introduction from foreign countries. It is essential that we should not allow this to overshadow and minimise dangers which lie within our borders.

When we read that the contagiousness of such a disease was demonstrated in this country first, say 20 years ago, one inference is that the fact was not known before. There seems a tendency in the present day to believe that a demonstration of contagiousness, or the converse, demands the experimental transference of the virus, and I fear this idea has done something towards obscuring the value of clinical research, and diminishing the record of clinical observation. To me, however, it seems impossible to read the older records, say the *Veterinarian* of 50 years ago, and the professional publications of to-day, without being struck with the usefulness of what is found in the former. I am fain to think we shall find that from an educational point of view, or as evidence of careful and correct observation, the older compare favourably with the more recent.

In the Jubilee year it may not be unappropriate here to refer for informa- as to the disease now under consideration to the *Veterinarian* for 1844. On page 116 we find a chapter headed "Carbuncle, Malignant Pastule," by Dr. Muller, a surgeon of Homburg, who says: "For 22 years I have been practising in a district, where anthrax arising from the carbuncle in cattle, is of such frequent occurrence that the number of cases which I have treated exceeds 100. In the majority of my cases I have been able to trace the operation of direct infection, usually from the hands of the peasants, and from the contact of the blood of the diseased cattle during the process of skinning them, and in others from the pricks of gnats and other insects that had previously been settling on the dead carcases. Only once from a horse. On no occasion did it ever seem to be produced by the merely eating of the flesh of the diseased cattle."

In the same volume on page 532 there is an account of a singular mortality among cattle by Mr. J. Howell, V.S., of Wickwar, near Wootton-under-Edge. This gentleman describes how he visited a farmhouse, for the purpose of examining a dead cow with two neighbouring practitioners. The cow was supposed to have died of poison, two having died previously and five more being then ill. Mr. Howell then gives symptoms which are characteristic, and settles the matter for us by his account of the *post-mortem*: "On laying open the cavity of the abdomen, we observed a slight redness of the peritoneum and omentum: upon removing the intestines a quantity of bloody fluid was perceived in the cavity of the belly, of a very dark colour. The stomachs were perfectly healthy, as was also the liver. *The only abnormal appearance was an enlargement of the spleen which was four times its natural size, softened,*

and containing a quantity of very thick and dark-coloured blood." Then follows another set of cases on an adjoining farm, where eight out of 14 cases had died suddenly within a very short space of time.

I have not quoted this as being the earliest evidence of the existence of anthrax in Great Britain. Up to this date and for some years succeeding it, the diseases of cattle had received very little enlightened attention. Practice amongst them was to a great extent engaged in by the most ignorant, and matters concerning them were in the early part of this century more obscure that we can even imagine now. Yet, if our profession were ignorant of the existence of such a malady as anthrax it was due to neglect of opportunities, for prior to the establishment of a veterinary school in Great Britain a good description of the disease was current in English literature.

The following I have extracted from "A Treatise on Cattle," with a direction for the proper treatment of them in their several disorders. To which is added a dissertation on their contagious diseases by John Mills, Esq., F.R.S., &c., &c., 1776." Describing a disease which was extremely prevalent in two parishes at the end of June, he says: "Cattle, sheep, swine, horses and even numbers of dogs which had eaten the flesh of diseased cattle, have died of this disease. The first symptom observed is in their abstaining from food. I do not mean to say no other symptoms precede this, but the keepers of the herds, little experienced in and as little attentive to, such objects do not distinguish them. The creatures are observed to be melancholy, to hang their heads, to have cold and drooping ears, rough hair without its usual lustre, loins feeble and beating, the whole body weakened, and seeming to be disposed to make efforts to urine. The chewing of the cud ceases. In a few hours after, they are seized with a shivering, their eyes become dull and watery, a tough snivel issues from the mouth and nose, they lie down and die quietly, or are more or less convulsed. In this extremity they stretch their heads out frequently, pant for breath, fetch long sighs, and sometimes, too, they cough. These symptoms often come on so rapidly that the creatures die before they have been seen; many bullocks have dropped down dead under the yoke. A violent shivering is always fatal. It sometimes happens that tumours appear on the surface of the body. These tumours are flabby, yield only a thick reddish sanies. If a suppuration comes on all does well. The tumours which show themselves on the breast of a horse are the most dangerous and certain, those that are found in that part corresponding to the dewlap in a bullock, the creature whilst dying or when dead bleeds at the mouth or nose, or fundament, and sometimes at all three together. Most of the drenches hitherto given have seemed to hasten death. This epidemic disease has so great a resemblance with what we call in man a putrid, malignant, purple and pestilential fever that I do not scruple to give it these names in other animals. So much is it of the same stamp, that I met with three men in the country on whom the anthrax appeared.

"The cattle never appeared fatter than they are this year (1763), and the disease has seemed chiefly to attack the finest and plumpest. At *post-mortem*, no external mark; blood not coagulated, but in a dissolved state; lungs, tongue, mouth, œsophagus, sound; abomasum, mucous membrance, peeled off; spleen, gangrenous spots. *Post-mortem* in a horse: Swelling of neck and breast; he stunk; the tumour in the neck appeared, under the skin, all macerated and drenched in a mucilaginous lymph; the flesh all around very moist and livid." The carcase of a sheep is thus described: "A swelling of the throat, as in a horse; the rest of the body was sound within and without; the intestines emptied; the spleen was swelled and stuffed with black blood." Five other sheep, "no swellings of neck and throat."

In 1836, Youatt, probably without an extensive practical experience, published his work on "Cattle, their Breeds, Management, and Diseases."

This we are bound to take, at least as a reflection of the knowledge then existent. At page 457, under diseases of the spleen in sheep, we find—"Inflammation of the spleen, and hœmorrhage from it, or exudation through its coats, is not an uncommon disease. In those that die of inflammatory fever, with which a high degree of intestinal inflammation is connected, or that perish in consequence of inflammation of the peritoneum, it is not unusual to find an effusion of a deep blood-coloured fluid in the abdomen. This has been almost uniformly attributed to one or the other of these diseases, in proportion as they have been observed to prevail; but the occasional seat of the disease, the spleen, and which is found most especially to have suffered, is too frequently overlooked. So it is in cattle. A beast in high condition, or placed in too luxuriant pasture, is suddenly taken ill; he staggers; his respiration becomes laborious; his mouth is covered with foam; he stands with his head stretched out, labouring for breath; he moans; blood escapes from the nostrils or the anus. The disease runs its course in a few hours, and the animal staggers and dies. On opening him, the vessels beneath the skin are gorged with blood; but the spleen is most of all affected and disorganised: it is augmented in size, softened, its peritoneal coat torn, and blood rushes or oozes, without any visible rupture.

"In such a malady, the skill of the practitioner can be of little avail. Had the peculiar determination of disease to the spleen been discovered, it could not have been arrested, and all that can be obtained is a lesson of wisdom—a caution to adopt a more equable and less forcing system of feeding, and the avoidance of all these causes of general inflammation in which the weakest organ suffers most, and by its disorganisation causes, or, at all events, hastens death."

It is curious how some of these views have kept their hold on professional and laymen to the present day, especially as to the high-feeding.

From a report in the *Veterinarian* for 1862, we find that the disease was then generally so far differentiated as to bear a name of its own, "Splenic Apoplexy." On page 515, Professor Simonds states that he "hesitated not to express his belief that it was a want of water which induced a diseased condition of the blood in this instance of extensive fatality, said to arise from splenic apoplexy." In the same article the professor speaks of dogs and pigs dying from eating the flesh of affected animals. Notwithstanding these observations, the contagious nature of some diseases had not at this time made a deep impression on the minds of English veterinary surgeons. Professor Simonds' report to the Royal Agricultural Society on some extensive outbreaks in this year, concludes: "I would express the hope that the causes of this fatal outbreak may yet be made evident by the co-operation of the chemist, the botanist, and the animal physiologist, so as to lead to the adoption of effectual preventive measures." Professor Buckman, the botanist, and Dr. Voelcker, the chemist, investigated the outbreaks of splenic apoplexy, in co-operation with Professor Simonds. The last-named certainly proved himself superior to his co-operators, for while, naturally, the botanist declares, in his summary, "the basis of the mischief is poor herbage," the chemist "did not feel the least surprised that animals supplied with such water (as he had analysed) had become the subjects of serious disease." The animal physiologist, however. manifests his honest doubt in his expression of hope as to what good the future might bring forth.

In the *Veterinarian* of 1864, under the head of "Splenic Apoplexy," there is a very long account, by Mr. Ernes, M.R.C.V.S., of the researches of Davaine. Here we find reference to the contagiousness of the disease, an enumeration of the species of animals susceptible, the fact that rats are not susceptible, a morphological description of the bacillus anthrasis, of its existence and development in the living animal before death, of the arrest of development in the

carcase after death, and its destruction by the putrefactive process; of the resisting power of spores, and many other matters concerning the disease, which were sufficient for much practical work, and which now stand well the test or scientific investigation.

It appears to us now very strange that the contagiousness of the disease should have made so little impression—that it should have been so long overlooked or disregarded. Armitage, editing Clater's "Cattle Doctor," in 1870. draws attention to the contagious nature of anthrax, to the dangers to dogs, pigs, etc., from eating flesh of affected animals, and to men from skinning carcases and dressing hides. From this date at least the fact seems to have been generally recognised.

I have purposely dwelt on this aspect of the subject in an endeavour to show that anthrax *is not a new disease.* I regard this as important, because unless we recoguise the fact that it has had an abiding existence here, we may possibly pay an exclusive regard to foreign sources and overlook dangers always at hand. I think we have, in the early records, ample evidence of the existence of anthrax in Great Britain. There can be no doubt that it is sometimes introduced from abroad. It is, however, very difficult to make any calculations as to its relative prevalence at given periods, but if we carefully compare the older English veterinary records with those of the present day I think we shall find it comparatively as much referred to in the former as in the latter. In attempting to form an opinion on this point it is necessary to remember the chaos as to diseases of cattle which prevailed forty or fifty years since, when the practice lay almost exclusively in the hands of the most ignorant farriers and quacks. When animals dying suddenly were said to be "struck" with this, that, or the other, and attracted no attention beyond that of the owner; when cattle diseases began to be written about, many of the rapidly fatal were jumbled together, animals died of inflammation, inflammatory fever, murrain, stroke of blood, mysterious poison, etc. There is little reason to suppose that any contagious diseases corresponding to these have become extinct, and we naturally ask ourselves where are the cases of inflammatory fever, inflammation, etc.? and on me at least, for reasons referred to, is forced the concluson that anthrax is responsible for some. Occasionally *post-mortem* examinations were made, and the condition of the spleen, etc., marked. In *Veterinarian* for 1843 there is recorded a "Horrible case of Splenitis"—a clear account of symptoms preceding a sudden death: size of spleen, pitch-like blood, and no other lesions except blood-stained serous membranes—as convincing as if the record were headed "A Case of Anthrax."

Now scientific discovery, followed by legal enactments, has directed special attention to a well differentiated disease. Doubtless, from want of knowledge, the victims of other diseases have been accredited to anthrax, and official returns mark an increase of cases. For instance, there would appear some reason for believing that last year many cases of "vegetable poisoning" were returned as anthrax, while by some "black quarter" is still regarded as anthrax, or "anthracoid"—a term it would, I think, be well to discontinue.

We have, however, now attained that point when all are agreed that the disease follows the entrance of the bacillus anthracis or its spores, and I propose now to direct your attention to some points of practical importance in connection with the microbe.

Professor Penberthy described the bacillus, its recognition, mode of growth, and emphasised the following points, that during life of its host probably only bacilli were formed in the body, that these were destroyed by putrefaction, that as the septic process advanced from the interior from the intestines, which always contained putrefactive organisms, and provided other conditions favourable to the process, the external parts of the carcase contained anthrax bacilli after the destruction of those which were in the internal parts, that

on gaining access to free oxygen spores were formed, which the putrefaction process did not destroy, but which lived for indefinite periods outside the body, and on regaining entrance to the system of the healthy animal, induced the disease. The unopened carcase which has thoroughly putrefied, then, is a source of little danger, while blood which has escaped before putrefaction is highly dangerous. Probably, however, if the blood is in very thin layers and desiccation immediately occurs, as must frequently be the case, the organisms are killed and it becomes inert.

In Great Britain the ox and sheep are most commonly the subjects of anthrax; next came the pig and horse, dog, cat. Ferrets, mice, rabbits, guinea-pigs, are easily affected, fowls seldom naturally contract the disease, and on account of their high temperature are said to enjoy a degree of immunity.

Amongst our patients, infection probably most frequently takes place by entrance of spores, and notwithstanding recent contrary statements there is evidence which goes to prove that both spores and bacilli may enter by invasion of lymphatics and unbroken mucous membranes, as well as through wounds and abrasions.

Man is also liable to attack; and this in Great Britain is most frequently from inoculation, when a local condition "Malignant Pustule" is established, or from the inhalation of spores inducing "Wool-Sorters' Disease," so called from the fact that workers in a certain part of the process of wool manufactures are most liable to it. All susceptible animals are liable to different forms of anthrax, determined to a great extent by the mode or place of entrance of the virus. When the virus enters through an external wound or abrasion and there is primary a local lesion the term local anthrax, malignant pustule, or carbuncle is applied to it. According to the seat of the local lesion, sometimes special names are given, *i.e.*, gloss-anthrax when the tongue is so affected; probably this is often a misnomer, and gloss-anthrax is really black quarter. The disease following ingestion of the virus is called *internal, intestinal anthrax* or often *splenic apoplexy*; that following inhalation of the spores *pulmonary anthrax*. The time which elapses from the entrance of the virus to the first appreciable symptom (elevation of temperature) in most of our patients varies from 24 to 60 hours; the average, I think, less than 40. The effect of the virus will to some extent depend on the number of spores and bacilli entering the blood stream at once, on the virulence of the virus, and the individual or class susceptibility of the subject.

The effect of the bacillus in the blood is to de-oxygenate it, to render it wholly or imperfectly uncoagulable, black, and tarry, the production of ptomaines, albumoses, etc. In the tissues it sets up an inflammation, whose product is of a peculiar citron-coloured gelatinous-looking material. In man at the seat of inoculation there is a necrosis, the dead tissue becoming black (hence the name anthrax) and inflammation and infiltration of the surrounding tissues. It is stated that in "malignant pustule" of man the lesion may exist for days without bacilli being demonstrable in the general blood stream. The effects of the disease on the animal may be attributed to alterations of the blood itself, to the special product of the bacillus, ptomaines, blocking of capillaries, and sometimes to swellings.

Anthrax must be regarded as a fatal disease, but I think it a great mistake to look on it as absolutely so. There are no means of exactly determining the proportion of deats of infected animals, but there is reason for supposing that this varies considerably. Sheep would appear to be nearly always mortally affected, though further observation is necessary before coming to a conclusion. I think it is not so fatal as black quarter. In the human subject, where surgical treatment is adopted, there is a large proportion of recoveries. In different outbreaks amongst cattle I have observed a considerable number

of favourable terminations; in several when the thermometer registered temperatures from 106 to 108·5 degs.

As a rule, the number of animals dying in an outbreak is not large, an average of about three being that observed in the Government statistics of this country. When large numbers are affected together the virus is probably brought to the animals in food as in a cart contaminated by a carcase, or by direct transference from the diseased. One instance came under my own observation when 32 animals succumbed, probably by bleeding first an affected animal, and then the rest of the herd.

The lesions of anthrax are varied in the different species of animal, probably depending on the habit and anatomical character of the species. In all animals dying of anthrax, however, certain characters are observable; there is early evidence of putrefaction, and the bacilli in the blood. In cattle and sheep usually a few hours after death there are evidences of putrefaction which commences and is most advanced in the abdominal viscera. We thus find the abdomen much distended, the anus protruded, and often blood is noticed escaping from it. Bloody spume is often seen about the nostrils and mouth, white parts are of a dark colour, indicating venous congestion. The blood is dark and tarry and shows little tendency to coagulate; if examined soon after death, it is found to contain anthrax bacilli and excess of white corpuscles. Internally the most marked and generally obtaining feature is the engorgement of the spleen, which frequently assumes an immense size. Sometimes in cattle its weight reaches 60 lbs. In extreme distension the pulp is broken down, occasionally its capsule is ruptured and the abdominal cavity contains a considerable quantity of blood. It is important to remember that the spleen does not always reach these large proportions, though in most cases, if not in all, there will be some enlargement of the spleen, of which the blood is dark and tarry in appearance. On making an incision into the organ, which is in a more or less diffluent condition, the dark blood flows into the incision. If a piece of spleen is cut off, blood flows from it. If putrefaction has not far advanced the bacillus anthracis is found here. As putrefaction progresses the anthrax bacilli become less and less, and in their stead we have putrefaction organisms. So that in some instances we may find both bacillus anthracis and putrefactive organisms. If a slide is mounted with blood in this condition, without any preparation of drying or staining, we notice moving and non-moving bacilli, the former being putrefactive, the latter probably those of anthrax. With a little experience one soon becomes able to form a decided opinion without the aid of the microscope, nevertheless it is often necessary. In the intestines there may be evidence of inflammation and blood effusion, more or less intense. Sometimes there is much infiltration of the coats of the bowel with the gelatiniform material described before. The mesenteric lymphatic glands are enlarged, and usually dark from vascular engorgement, Occasionally there are blood markings in various parts of the carcase, especially in kidneys and heart, and collections of jelly-like nature; this is most common about the throat.

In the horse gelatinous exudation about the throat and neck is more common than in cattle. (Loodianah Disease, India.)

In the *pig* the throat lesion is most frequent; they probably nearly always contract the disease by eating parts of affected carcases. The amount of this material is often very large, the lymphatic glands are engorged with blood and inflammatory products. In both horse and pig the other lesions described as occurring in cattle are in varying degree noticeable. In pigs Crookshank often found ulceration of the tonsils, and the spleen not much affected. In dogs there is a collection of more or less gelatiniform material about the throat.

After inoculation of mice, rabbits, and guinea-pigs, there may be found in

those cases which have not died very soon, some gelatiniform material at the seat of inoculation; this is not observable, or only in very small amount, in those cases which terminate rapidly; otherwise, the lesions are those of swollen spleen and hæmorrhagic markings, usually not very great.

The foregoing are the typical lesions found on making general autopsy; but I think we shall all agree that the more rarely we make such, the more consistently shall we act with our knowledge of the whole subject, and our duties as conservators of animal and human health. I would, however, here like to say that my personal experience certainly does not coincide with descriptions often given by writers on this subject; often the spleen being the only organ or part markedly affected. There is, too, a tendency for venous engorgement, but gross lesions other than that of the spleen are frequently wanting.

(*To be continued.*)

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary general meeting of this Society was held on Thursday night, the 6th inst., at the Royal College of Veterinary Surgeons, 10, Red Lion Square, Bloomsbury. Mr. S. Villar, the president, occupied the chair, and the other Fellows present were Messrs. A. L. Butters, J. K. Bruce, Jno. A. W. Dollar, H. Edgar, Thos. C. Garry, J. S. Hurndall, Prof. F. Hobday, F. W. Kendall, Geo. C. Lowe, F. C. Mahon (hon. sec.), Joseph H. Manton, Prof. J. Macqueen, Messrs. A. Prudames, G. E. O. Reddish, H. G. Rogers, W. Roots, J. E. Richards, F. G. Samson, H. M. Singleton, P. Vincent, F. G. L. Walpole, F. W. Willett, W. H. Williamson, and among the visitors were Spooner Hart, Esq., M.R.C.V.S.

On the motion of Mr. A. L. Butters, seconded by Mr. H. G. Rogers, the minutes of the preceding meeting were taken as read, and were confirmed.

The Hon. Secretary (Mr. F. C. Mahon), intimated that he had received communications from Mr. W. Hunting, Mr. J. Roalfe Cox, and Mr. C. Sheather, expressing regret because of their inability to attend.

New Fellows.

A ballot ended in the unanimous election of the following gentlemen as Fellows of the Society: Mr. N. Almond, F.R.C.V.S., of Chelmsford, and Mr. G. Upton, M.R.C.V.S., of Priory Farm, Dartford.

British Institute of Preventive Medicine—Proposed Grant.

The Secretary read a circular letter which he had received from Mr. A. W. Hill, secretary of the Royal College of Veterinary Surgeons.

Mr. A. Prudames: With your permission I should like to say a few words on this subject and ask you to consider a resolution which I will move. This matter, as you are aware, has been brought before us on more than one occasion and there appears to have been a great division of opinion as to what should be done, how it should be done, and when it should be done. You will remember that some time since "the veterinary profession" was practically ignored by the promoters of this Institute. That being so, it was thought then that we should ignore the Institute. Now, I am pleased to note that our profession is no longer ignored. They have, as you are aware, placed one of our number in an active position in the Institute and, as stated to us by Dr. Ruffer at our last meeting, he is doing really good work. Under those circumstances we as a profession, although in a small degree, are acknowledged and are placed in a position which enables us to show that we are of some use. Hence I think it behoves us to manifest our good feeling and good wishes towards "The British Institute of Preventive Medicine" by subscribing to it what we reasonably and fairly can afford, having regard to the various claims made upon us and the amount of funds at our disposal. I take it for

granted that we have no wish to keep a very large nest egg, although the possession of a nest egg is always of value to a society as to an individual and gives one a standing. I beg to propose "that our secretary be requested to reply to this letter stating that this society is prepared to give 25 guineas as a donation to the British Institute of Preventive Medicine."

The CHAIRMAN: Allow me to say that rule 25 of this Society will not admit of the motion being framed in that way. We can only recommend the Council to grant the money.

Mr. J. S. HURNDALL: I should like to ask Mr. Prudames this: What advantage may we expect in return for this 25 guineas? Personally, I do not see any utility in handing over that sum out of a balance of £61 odd which we have at our disposal, unless we know that we are going to get something in return. Are we to make this grant merely for the sake of tacking ourselves on to the tail of the medical profession? If so, I think the money could be better disbursed in being voted to some fund to be established in connection with our societies for doing work of this description ourselves—I mean such special work as this Institute professes to do, or aims at doing. Plenty of good men in our own body would come forward to undertake the work. Personally, I have no sympathy with this proposed grant to the British Institute of Preventive Medicine. I have never been able to learn yet what they propose to do, nor how they intend to use any money that may come from our profession.

Mr. H. G. ROGERS: I am somewhat of Mr. Hurndall's opinion. I do not think we are rich enough to make a sort of benevolent fund of this Society. I do not know whether it is generally known, but something like £5,000 has been given by individuals to this British Institute of Preventive Medicine. Like Mr. Hurndall, I should very much like to know—before we entertain this motion—something of the scope and object of this Institute: What sort of good we are going to derive from it! It is in my memory that when we are associated with medical gentlemen in any particular movement, we do not take a front seat. If anyone here is able to afford me any information as to the work undertaken by this Institute, I shall be very grateful to him if he will enlighten me. There is another matter, however, down on the agenda relative to the proposed Jubilee Memorial which touches us more nearly than the British Institute of Preventive Medicine. Our balance of £61 is not very large, and we should not touch our invested funds for subscriptions.

Mr. PRUDAMES: I have no special information concerning this Institute, only that which has appeared in the veterinary and other journals. At the same time, I do feel that we as a profession ought not to be entirely out in the cold in this matter. We ought at least to show a front equal to our position. We cannot aspire, because we are not a wealthy body of men like the medical profession; and, in my opinion, we cannot and never shall be thoroughly and completely their equal. But there is no reason why we should not do our best. I may add that if, individually, any members of our profession are able further to help this Institute and to bring the body to which they belong to the front, we shall be glad, and the Institute will no doubt be thankful for any subscriptions of this description. The grant I propose is one which I regard as being within the means of this Society, By making this grant we shall make known our existence, not only to this Institute, but to the public; and we must keep before the public if we would maintain the position we ought to hold. I will amend my motion as follows: "That this meeting desires to recommend to the Council of the Central Veterinary Medical Society that the sum of 25 guineas be voted to the British Institute of Preventive Medicine, and that the Secretary be authorised to reply to Mr. Hill accordingly."

Mr. SINGLETON: I have much pleasure in supporting the resolution sub-

mitted to us by Mr. Prudames. I think we may be congratulated on deeming the subject of sufficient importance to occupy our attention this evening. The founding of the British Institute of Preventive Medicine is an event of national importance, and constitutes an epoch in the history of British medicine; the promoters are to be congratulated on having succeeded in removing a stigma which for long attached to medical science in this country; and seeing that the greatest advantages to public health may be expected to be derived from the institution it seems almost incredible that it should yet be allowed to remain in the singular, the anomalous, the unaccountable position of being wholly unsupported by parliamentary aid, and considering the magnitude of the undertaking, the difficulties to be overcome, the ignorant prejudice and silly sentimentality which exist in certain quarters, the enormous outlay—£100,000 being the sum required—it is not to be wondered at that the medical profession should have taken the lead in the matter. But although they have taken the lead, there is no reason whatever why we should remain altogether behind. The objects of the institution and the purposes for which it will be based, namely, the study of infectious diseases and the best means of resisting them, are of vital interest to the veterinary profession, and therefore it behoves us to support it. Nor do I think it a question of what we shall be given in return. I venture to think that is not precisely the point at issue this evening. If we avail ourselves of the opportunities which the British Institute of Preventive Medicine offers to us, and take up research work there, you may depend we shall get exactly what we deserve, for it rarely happens that any valuable scientific work is consigned to oblivion. Pathology being as much dependent on veterinary medicine as on human medicine, and they having their place and we having ours, let us join them in this object—the advancement of science.

Mr. W. ROOTS asked whether, in the event of their secretary writing to Mr. Hill telling him that the Society had passed a resolution recommending the Council to grant 25 guineas to this Institute, the hands of the Council would not thereby be bound.

The CHAIRMAN: Not at all.

Mr. HURNDALL: Suppose after the letter is dispatched to Mr. Hill, the Council do not adopt the recommendation—and they have the right to reject it.

Mr. ROOTS: Does it not rather bind the Council writing to Mr. Hill to tell him that the Society have recommended them to grant this sum?

Professor MACQUEEN: It was unfortunate to introduce the name of Mr. Hill at all in this business. We have nothing to do with him.

Mr. PRUDAMES received permission to amend his resolution by simply limiting it to a recommendation to the Council to grant 25 guineas for the purposes of the British Institute of Preventive Medicine.

As amended the resolution was carried by 17 votes against 4.

On the motion of Mr. F. G. Samson, seconded by Mr. Roots, the secretary was instructed to write Mr. Hill, for the information of the Council of the Royal College of Veterinary Surgeons, that the subject of his letter was under consideration.

Grant to the Jubilee Fund.

Professor MACQUEEN explained the initiation and progress of the movement for commemorating in a befitting and permanent manner the efforts of those who were instrumental in obtaining the first Charter of Incorporation of the Royal College of Veterinary Surgeons in 1844. In July last the Council of the College, on the motion of Mr. R. C. Trigger, voted a sum of not less than £50 as the nucleus of a Jubilee Memorial Fund. A committee was appointed to carry out the object, and at its meeting in August last appointed Mr. Trigger as its chairman, Mr. Wragg as its treasurer, and himself (Professor Macqueen)

as honorary secretary. A circular inviting co-operation was issued to all the members of the Council of the Royal College, the principal Army veterinary surgeons, the principals and professors of the different teaching schools, the presidents and secretaries of the veterinary medical societies, and to the secretary of the veterinary department of the Board of Agriculture. Favourable replies were received from a majority of those to whom the circular was sent. The enlarged committee comprised (1) all the members of the council of the R.C.V.S., with the exception of two or three gentlemen who were unable to devote sufficient attention to the work. Secondly, with the exception of Professor Walley, the principals of all the schools had joined the committee. Professor Walley, he (Professor Macqueen) was sorry to say, was too ill to take part in any movement whatever. Had his health permitted, no member of the teaching profession would more gladly have lent his aid to that movement. All the professors of the teaching schools—every veterinary teacher—had consented to assist in the project. A large majority of the presidents and secretaries of the medical societies had also agreed to act, as had also Professor Brown, C.B., and Mr. Cope, of the Veterinary Department of the Board of Agriculture. As yet he had not heard from the principal veterinary surgeon of the Army. The committee thus augmented met the previous week under the presidency of Mr. Trigger, when it was decided that the memorial should take the form of a scholarship or bursary to be called "The Charter of Incorporation Scholarship or Bursary." That was the main recommendation of the committee which the Council of the Royal College of Veterinary Surgeons adopted at its meeting held subsequently the same day. Subscriptions were now invited from societies and individual members of the profession. How the scholarship or bursary was to be awarded would depend upon the amount subscribed. In addition to the £50 which the Council of the R.C.V.S. agreed to give, the Midland Counties V.M.A. had subscribed £50, and other contributions had been received varying in amount from one to ten guineas. The total up to date was nearly £200. Now, he (Professor Macqueen) was there that evening as a beggar on behalf of the Jubilee Memorial, and he felt that he could appeal with a far greater degree of confidence to their sympathy than had Mr. Prudames in his plea for the British Institute of Preventive Medicine. The Jubilee Memorial Fund was one which entirely concerned the veterinary profession, and they would have a voice and vote in the disposition of the money subscribed. He proposed that the meeting recommend the Council to grant 25 guineas towards the fund named.

Mr. PRUDAMES: May I ask whether the committee has arranged for the scholarship to be open to all the schools?

Professor MACQUEEN: That is entirely a matter for the Council of the R.C.V.S. and the committee, and is not yet decided. Some suggest a post-graduate's bursary, and some propose a students' bursary.

Mr. HURNDALL: I notice that in our balance-sheet there is an item of £20 called a "Jubilee Grant" which was really spent upon a smoking concert to celebrate the event. After spending £20 in this way, I think it would be unworthy of us not to give more than 25 guineas towards the scholarship or bursary it is designed to found in honour of the promoters of our first Charter of Incorporation. It may be thought that I am inconsistent because I took exception to giving 25 guineas out of our credit balance of £61 to an Institute with which I am not in sympathy. But here is an object than which a more worthy one, so far as our profession is concerned, cannot be imagined, and I do think that after voting £20 for a smoking concert and having regard to the fact that the Midland Counties Association has granted £50 towards the Jubilee Memorial, we cannot do less than recommend that our Council do make a similar grant. I move therefore a recommendation to that effect.

Mr. H. EDGAR: I have great pleasure in seconding the proposition that our Council be recommended to subscribe £50 to this most worthy object. I think it will ill befit the Central Society to be below the Midland Counties Society in this matter, seeing that the object is one with which we are certainly in full sympathy and one which should be supported to the utmost power of this Society.

Professor Macqueen's motion not having been seconded, Mr. Hurndall's proposition was put as the original resolution, and was carried unanimously.

Morbid Specimens.

Mr. W. H. WILLIAMSON submitted for inspection a tumour removed from the abdomen of a small Scotch terrier in the course of a *post-mortem* examination. The tumour, he said, was one which involved the whole of the mesentery. The organs were healthy, save the stomach and the heart, the valves of which were all affected. The most curious point in the case was the weight of the tumour, namely, 1¾ lbs. He had not made a microscopic examination of the tumour, but he should imagine from its appearance that it was carcinoma. The dog showed no symptoms of ill-health until a week prior to its death, although the tumour was known to have been forming six months before.

Mr. T. C. GARRY exhibited two photographs showing lesion—intussusception of the small bowel in a horse, the principal interest attaching to the exhibit being the extent of the bowel involved, which, Mr. Garry said, was something like 30 feet.

In reply to Mr. Prudames, Mr. GARRY said, I fancy the horse was about nine or ten years old.

Mr. EDGAR: I should like to ask Mr. Williamson if he found in any way a deposit in the little dog, if any of the glands were involved, and if the symptoms were exhibited by the dog. I can readily understand that a tumour of these dimensions must have been easily discoverable on external manipulation. But was there any special sickness or diarrhœa or anything of that kind?

Mr. WILLIAMSON: I found no deposits except in the spleen, which is also being passed round. As to symptoms, the tumour was detected about six months before the dog died. It showed no signs of illness until a week before death when it had sickness and diarrhœa.

Mr. EDGAR: There was never any injury to the dog known?

Mr. WILLIAMSON: No, never.

On the motion of Mr. Prudames, seconded by Mr. Edgar, thanks were unanimously accorded to Mr. Williamson and Mr. Garry for the morbid specimen and the photographs which they respectively submitted.

Congress of Hygiene (Veterinary Section.)

The CHAIRMAN: It will be in your recollection that Mr. J. A. W. Dollar was asked at a meeting of our Society to act as our special delegate to the International Congress of Hygiene and Demography held at Budapest. He has been good enough to write a report, and I will ask him to be kind enough to read it to us.

Report on the XVII. (Veterinary) Section of the International Congress of Hygiene and Demography at Budapest.

By JNO. A. W. DOLLAR, M.R.C.V.S.

Mr. President and Gentlemen,—My first words this evening should be devoted to thanking you for the expression of confidence implied by your appointing me your delegate to the International Congress of Hygiene and Demography. That confidence I have endeavoured to deserve, but I cannot

help feeling that your decision in this matter was prompted less by any good qualities of mine than by the desire this Society has always shown to encourage its younger members. Under these circumstances I did not hesitate to accept, and I have now only to ask your indulgence while I render some account of my stewardship. The task itself is of no slight difficulty, for it consists in conveying to you in one short hour some idea of the doings and sayings of a week, and I therefore hope you will deal leniently with any shortcomings.

The opening of the 8th International Congress of Hygiene and Demography was celebrated by a series of brilliant ceremonies. On the evening of the 1st Sept. a meeting took place in the hall and gardens of the National Museum, but it was not until the following day that the opening of the Congress was officially celebrated. The ceremony was performed by his Royal and Imperial Highness Archduke Louis in person, and took place in the Redoubt, an immense public hall, built and decorated in the Moorish style, which is said to have cost £600,000. Immediately after the ceremony the Royal Joseph Polytechnicum, in which the meetings of the various sections were to take place, was opened to the members of the Congress.

Business commenced in earnest on Monday morning. On that day the XVII. or veterinary section was inaugurated by the reading of papers by Professor Bang, of Copenhagen, and by Professors Hess, Siedamgrotzky, Nocard, Perroncito and Thomassen, on the diagnostic value of tuberculin. It is impossible of course to do more than briefly sketch these.

Professor Bang referred to 150 cases in which he had verified the indications of tuberculin by *post-mortem* examination, and to 190 other *post-mortems* made after tuberculin injections. Excluding questionable cases there remained 207 in which the reaction had been well marked, and of these 96 per cent. proved undoubtedly tuberculous. He thus came to the conclusion that tuberculin was an exceptionally reliable agent in the diagnosis of tuberculosis. These experiments, however, also showed him that in certain localities 80 per cent. of the cattle are tuberculous. Under such circumstances it would be a grave undertaking to kill off all that react; but luckily this seems unnecessary, and Bang recommends that those cattle which react but show no clinical appearances of tuberculosis should be preserved, and says that they may even be used for breeding by taking the precaution of removing the calves when born and bringing them up by hand. Most calves which react to tuberculin show intestinal or retropharyngeal tuberculosis. This Bang thinks is due to feeding with raw milk, and he therefore recommends boiling it from the second day onwards.

The experiments made in Zeeland show that such precautions greatly check the spread of disease. Two years ago Bang tested 208 cattle on one estate in Zeeland, and found that 80 per cent. of the cows, 40 per cent. of the steers, and 40 per cent. of the calves reacted. Few appeared perfectly healthy. The sound animals were separated from those infected, and special attendants kept for each. The calves of diseased mothers were separated at birth and fed on boiled milk. A few weeks after birth each was tested with tuberculin, but not a single one reacted. Each year the whole herd was injected twice. The first year, when isolation was still incomplete, 10 per cent. of presumably healthy animals reacted; but the second year only one out of 107 was affected, and this spring only two out of 122. Bang's method seems the easiest and cheapest for stamping out tuberculosis.

In 1893 a law was passed in Denmark devoting 80,000 kronen to experiments with tuberculin. Bang was entrusted with its administration. 8,401 animals, distributed in 327 farms, have been inoculated up to the present, and of these 3,362 reacted. The greatest number was always found where the traffic was most active, isolated farms being often entirely free.

Hess, of Bern, opposed certain of Bang's conclusions, pointing out that after using tuberculin the animals often showed severe symptoms, such as loss of appetite, great depression, and diminished yield of milk. The local swelling often lasts four to five days. The worst effects are, however, the production of acute tuberculosis, and therefore, whilst Hess considers tuberculin an excellent diagnostic material in most cases, he warns us against relying on it in either old or wide-spread tuberculosis, and lays stress on the frequent occurrence of acute miliary tuberculosis.

Professor Nocard then spoke, referring to the experiences gained in France, Saxony, Berlin, and Copenhagen, which point to tuberculosis being contracted during adult life. Observations made in the Paris slaughter-houses show that tuberculosis is rare in calves, though 20 to 25 per cent. of the cows are diseased, and therefore Nocard considers that heredity plays a very insignificant part in its spread. As compared with foot-and-mouth disease, swine erysipelas, or swine plague, the infection of tuberculosis is peculiar, inasmuch as whilst a very short period of contact is sufficient to hand on disease in the former affections, in tuberculosis long and intimate contact is necessary. In Paris, since the custom has obtained of keeping milch cows only one year, and then sending them to the butcher, the disease has greatly decreased, whilst formerly, when they were kept five or six years, the disease was very wide-spread. Nocard considers tuberculin the best test for tuberculosis, and, in contradistinction to Hess, has seldom seen even a falling-off in milk production after its use. He recommends testing all suspected animals with it, and thinks the immediate slaughter of those which react unnecessary, provided only they show no clinical symptoms. By merely isolating them, their usefulness for work, or milking, is preserved, or they may be prepared for the shambles. Nocard has only seen two cases of generalised tuberculosis in 2,000 cases tested with tuberculin.

A well sustained discussion followed, during which Professor Ostertag pointed out the great dangers of allowing animals to feed at a common manger, a method he said which especially favoured the spread of tuberculosis.

At the conclusion President Dammann summed up the results of the discussion as follows: "The essayists are agreed that tuberculin is a most valuable diagnostic agent. The number of failures with it is practically unimportant. The greater number of those present do not share Hess's views as to the frequent occurrence of acute tuberculosis after inoculation, and therefore consider his warning unnecessary." This concluded the business of section XVII. for Monday.

In the first section a paper of the greatest interest dealing with antitoxic serums was given by Dr. Roux, of the Pasteur Institute. As the subject has lately become of much importance in connection with the prevention and cure of diphtheria I cannot entirely pass it over. Dr. Roux endeavoured to explain the method by which antitoxic serum when injected into the body produces its protective result. You are all probably aware that if a small quantity of serum from an animal immune against diphtheria be injected into the body of a fresh animal that animal is afterwards able to resist the injection of large quantities of diphtheritic poison—quantities three, four, or five times as large as those usually necessary to produce death. A further beautiful experiment has shown that protective serum when added to the toxine in a glass vessel appears to neutralise it just as an alkali neutralises an acid. But the action is not so simple as might at first appear. In many diseases, like cholera, typhoid fever, pneumonia, and hog-cholera the serum of protected animals possesses no antitoxic power whatever, and though the animals resist injection of the microbes they are just as sensitive to injection of the soluble portions produced by these microbes as ever they were. Their serum

does not protect against the toxine, but only against the microbe. M. Metschnikoff has shown the reason to be that protective serums stimulate the phagocytes or white blood corpuscles to increased activity, and that these devour the microbes. This explains why serum from an animal vaccinated against one disease may protect against a totally different disease. M. Metschinikoff therefore prefers to name the active principle in protective serum not an "antitoxin" but a "stimuline." But protection from microbes and protection from toxines are two very different affairs. Up till now only the serum of the animals inoculated against tetanus, diphtheria, abrin, ricin, and serpent poison have been discovered to be antitoxic. This antitoxic power may become so developed as to render serum capable of neutralising many million times its bulk of toxin. Dr. Roux considers that the antitoxin is a cellular secretion, and that it is produced by the irritation set up in the cells by the presence of the toxin, but the subject is still too little advanced to say what are the tissues principally involved in this action.

As I previously remarked, the protective serum does not simply neutralise or destroy the toxin of tetanus. This fact has been demonstrated by a very pretty experiment. A mixture is made of 900 parts toxin and one part serum, Half a c.c. of this is injected under the skin in each of five normal rabbits. All remain healthy. If now we take five other rabbits of equal weight. and apparently quite healthy, but which have previously been rendered immune against the Massowah vibrion, and inject them with the same quantity of the same mixture, they will contract tetanus. Nay, more, they will take the disease if injected with one-third of a c.c. of a mixture of 500 parts only of toxin and one of serum. The toxin has, therefore, not been destroyed, nor even effectually neutralised, since it is only necessary to modify the resistance of the animals and its effects become apparent. It would, therefore, seem more probable that the action of the serum is not directly on the toxin, but on the cells, and that these latter, when stimulated by the presence of the serum, become indifferent to the toxin, and are unaffected by it. It would, of course, be better if we were able, after mixing them, to again separate the toxin and antitoxin, but this is at present impossible. MM. Calmette, Phisalix, and Bertrand have, however, performed an analogous experiment, and shown in a very perfect manner the nature of the combination. The serum of animals vaccinated against snake-poison is antitoxic, *i.e.*, it neutralises the poison. A mixture of the two in proper proportions is harmless. But if the mixture be heated to 70° C., all the virulence returns—the antitoxin is decomposed, whilst the venom is unaffected. From this it would seem that the antitoxin has remained in contact with the poison without uniting with it, or only in a very unstable manner.

It has always been considered that the antitoxic serum acted solely in one disease—that is to say, that diphtheritic serum acted only in diphtheria and tetanic serum in tetanus, but that tetanic serum had no action in other diseases. This view has been lately shown to be erroneous, and Dr. Calmette has fonnd that whilst normal horse serum has no effect on cobra poison, antitetanic horse serum neutralises it. The converse, however, is not true——serum from an animal vaccinated against cobra poison in no way protects from tetanus toxin.

Such examples as the above might be multiplied, but in a report like this I am forced to remember that conclusions and not arguments can alone find a place.

The second day was occupied with preventive inoculation against contagious pleuro-pneumonia. Professor Arloing spoke first. He showed by numerous photographs and diagrams that in the acute forms of pleuro a bacillus could always be found, and that its colonies rapidly liquefied the gelatine (pneumo-bacillus liquefaciens). This bacillus he regarded as the

cause of the disease. By injecting it subcutaneously a certain degree of immunity was conferred, whilst if a glycerine extract of the bacillus were made (similar to mallein) and injected under the skin, it produced a reaction which was more pronounced in animals suffering from pleuro-pneumonia contagiosa. Arloing, therefore, thinks it might be used for detecting the latent forms of that disease.

(To be continued.)

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

THE seventeenth general and fourth annual meeting of the above Society was held at the Grand Hotel, Aytown Street, Manchester, on Thursday, December 6th, 1894. Peter Taylor, Esq., the President, in the chair. Present: Messrs. Geo. Morgan, W. A. Taylor, A. Lawson, T. Hopkin, E. Faulkner, H. Ferguson, H. D. Chorlton, A. W. Mason, J. H. Carter, J. B. Wolstenholme, R. C. Trigger, and the secretary.

Minutes of the last annual meeting were read and confirmed.

Letters of apology for non-attendance were read from Professor W. Williams, R. S. Reynolds, H. Thompson, J. E. Scriven, Wm. Maynard and Son, H. G. Goodall, J. Abson, W. Carless, C. Blackhurst, and A. J. MacCallam.

A letter was read from the Central Veterinary Medical Society, asking if the above Society was prepared to consent to an alteration of its basis, with a view of separating the benevolent from the defence objects of the Society. It was resolved that no alteration be contemplated, as we had not sufficient grounds for so doing.

A letter was also read from the Secretary of the Royal College of Veterinary Surgeons asking if we had a desire to subscribe to the British Institute of Preventive Medicine. It was resolved that, while sympathising with the object in view, we have no funds to draw upon for any such purpose.

The PRESIDENT then addressed the meeting. He was very pleased to meet the members once more and to preside at the annual meeting. He very much regretted the unavoidable absence of his old friend and so long a colleague, Mr. T. Greaves, through illness; he did not remember a general meeting in which he had been absent before that day, and he hoped he would soon regain his health and strength. The past year had been one of joy to the executive, having had no cases to defend in court of law, but they have had a good deal of work, having some five or six cases to give advice upon, only one of which required settling, which was done very amicably to all parties concerned. He hoped the Society would continue in its good work.

The SECRETARY said he had pleasure in being able to give a satisfactory report of this Society. Its need and usefulness is becoming more apparent every year. Besides receiving application from members, we have many from non-members and relatives of same, seeking advice and help. The former we can give, but not pecuniary assistance, as we are precluded by our rules from doing so. I would singly advise all members of our profession to join such a useful Society. I cannot for one moment understand the apathy or indifference of a great number of our profession. Why do they not join a society which offers such a substantial assistance when needed for the small sum of 10. 6d. per annum, and where, if they do not require it, they would have the satisfaction of doing some little towards the relief of those who are not so fortunate as themselves; also to the fatherless and widows. I am sorry to report the death of our old and esteemed member, Mr. J. B. Taylor, who was elected a member of the Council at the last annual meeting, His loss we

deeply deplore. You will be pleased to learn that Professor W. Williams, of the New Veterinary College, Edinburgh, has kindly accepted a nominee of this society to a free studentship. During the last three years we have enrolled 47 new members. Members on the books at the present time, 159.

Mr. GREAVES, in presenting the financial statement for 1894, said he had great pleasure in announcing the continued success of each branch, a larger increase of members (twenty during the year), and also in the amount of subscriptions, there being £18 8s. 6d. more than in 1893. During the year we have had several applications for assistance in cases of great need, but, unfortunately for them, they had failed to become members. They therefore had no claim upon our funds. We have also had before us several claims made upon our members. The Council has been called together, and the merits of the case carefully and dispassionately considered, and if found to be such as could not be defended, we have rendered personal assistance in arranging matters between plaintiff and defendant; and, in such cases, the fairness of the terms agreed upon has in every case been so satisfactory, that the business friendship and reputation of one member has been established.

Benevolent Fund—

	£	s.	d.
Amount of dividend received, 1894	102	19	10
Cash in hand and bank, December, 1893	336	8	2
(Half year's interest to be added, December 29th, 1894.)			
„ in Birkenhead Docks	1900	0	0
„ in Manchester Corporation	900	0	0
	3239	8	0

Defence Fund—

Subscriptions, 1894	107	14	0
Cash in bank and in hand, December, 1893	337	18	10
(Half year's interest to be added, December 29th, 1894.)	445	12	10

The whole of the expenses for 1894 being £8 9s. 8½d.

On the 17th of April, 1894, the books and accounts were carefully audited by Mr. Pownall, accountant, and Mr. Wolstenholme, V.S., who were appointed at the annual meeting; they found the books and accounts perfectly correct. On the following day they met two of your trustees at the District Bank and inspected the deeds and vouchers for their correctness.

The following officers were appointed:—President: Mr. Peter Taylor, Manchester; Vice-President: Mr. John Morgan, Liverpool; Treasurer: Mr. Thos. Greaves, Manchester; Secretary: Mr. Sam. Locke, Manchester; Members of Council: Messrs. J. S. Carter, E. Faulkner, T. Hopkin, John Lawson, A. W. Mason, R. S. Reynolds, J. E. Scriven, W. A. Taylor, H. Thompson, R. C. Trigger, W. Williams, F. W. Wragg; Auditors: Mr. Pownall, of Messrs. Butcher, Dillon & Pownall, and Mr. J. B. Wolstenholme, V.S., of Manchester.

Mr. Hopkin suggested that the attention of the Council be drawn to the large amount of funds in bank and in hand, as to the desirability or not of investing same.

Mr. G. Morgan proposed and Mr. W. A. Taylor seconded the proposition, that in future a copy of the balance-sheet be forwarded to each member. Carried.

It was proposed that the Secretary write a letter of condolence to Mr. Thos.

Greaves in his sickness, and to express the hope that he would soon recover his usual health.

A hearty vote of thanks was given to the retiring officers for their services during the past year, and to the President for presiding.

SAM LOCKE, *Hon. Sec.*

Reviews.

INVESTIGATIONS CONCERNING INFECTIOUS SWINE DISEASES. By THEOBALD SMITH, P.H.B.M.D., and VERONUS A. MOORE, B.S.M.D. (U.S. Bureau of Animal Industry, Bulletin No. 6, 1894.)

Quite of late we fear the bacteriologist and his methods have not been receiving from either the laity or from the average members of the healing professions the same profound respect with which they were first hailed.

In an intensely utilitarian age and island, this is not to be wondered at. Probably rather too much has been looked for to be made at once available for that ultimate aim, the cure of disease; and even in the more hopeful direction of the prevention of disease by inoculative immunisation, the successes have not yet been numerous and decided enough to occupy a much more fortunate position.

As tending, however, to an increase of confidence in all matters bacteriological, whether diagnostic, curative, or preventive, we think the several bulletins issued by the U.S. BUREAU OF ANIMAL INDUSTRY must go a long way.

No. 6, being the record of investigations concerning infectious swine diseases by Drs. Theobald Smith and Veronus Moore, is an example in many ways of how careful and united efforts in a difficult subject may be capable of arriving at results, such as, with too few exceptions, the desultory, unaided and often aimless pursuit of similar researches in our own favoured country is not likely to reach.

The report contains evidence of much good work, with an elaboration of detail almost German in its extent and minuteness, and several points of not only special but of general interest in the germ theory of disease have been raised. Among these is the question of the possible existence of distinct varieties of the same pathogenic species, still looked on with considerable reserve by the Koch school of bacteriologists. The results here appear to be affirmative. Many profound changes in the bacillus itself morphologically and functionally have been seen clearly to result from its artificial culture, changes more decided than previous investigations have generally shown to be possible. Indeed, one decidedly new variety is considered to have been so produced.

The opinion is risked by our authors that the hog-cholera bacillus may be but a modification produced in that animal from the ordinary colon bacillus, by conditions induced by improper feeding, particularly so in this case as it appears from the experiments made by these gentlemen that the hog is not naturally so susceptible to the pathogenic action of this particular germ as are some other animals. In this respect the question of acquired pathogenic properties by a common and generally harmless microbe bears similarly upon the relation of the *coma bacillus* to cholera in man. Various culture media were employed in these researches, but we think we notice a preference for what might now be considered somewhat old methods. As showing how little may make a difference, it was found that a slight change in the degree of alkalinity of the medium produced a distinctly different type, not only in the morphology of the organism, but also in respect to their fermentative actions on sugar: a property possessed more or less by this whole group.

The hog-cholera bacillus as shown by this report develops decided septic conditions in most small animals, and is generally rapidly fatal to them. For over six years Smith and Moore have found an artificial cultivation to be quite as capable of killing a rabbit at the end of that period as at the beginning; in four days after the injection of ·12 c.c. into the ear vein, death usually took place. A bacillus identical with that of hog cholera was found *in a mare after abortion.* An organism also in every way identical has been found *affecting the human intestines* by Gœrtner in Saxony. But perhaps the most interesting variety popularly of the same organism is the one recently discovered by Professor Tœffler of Griefswald, as the cause of an epizootic among white mice kept by him for experimental purposes. As may have been noticed from recent accounts, this same germ—the *bacillus typhi murium*—has been utilised as a remedy for the plague of mice in Germany—the peasants from affected districts being induced to come to certain head-quarters to receive pieces of bread soaked in a thin gelatine culture of the germ. Mice eating these crumbs rapidly die, and as their bodies are used up by their fellows, a rapid killing out is secured. (How slow we have been to find a remedy for the same pest.)

Much confusion even to-day seems to exist in regard to the naming of swine diseases, but assuming that what most authors mean by swine-plague is really a disease distinct from hog-cholera, these researches only in some points show them to be different. Indeed, one of the types of the hog-cholera bacillus was in a very large number of cases found along with the swine-plague germ in the latter disease. In regard, however, to the production of immunity by culture inoculation, there is a marked difference, immunity being easily got towards the swine-plague organism, but with great difficulty towards that of hog-cholera. The experiments in this direction made upon rabbits and guinea-pigs are numerous and interesting; to be appreciated, however, they must be read in detail. From the great difficulty experienced in producing the proper degree of immunity with safety to life towards hog-cholera no very practical benefit is as yet claimed.

In subcutaneously injecting the germs themselves, it was found that (1) "both these cases of hog-cholera and swine-plague remained alive in the tissue for several days; (2) the germ of hog-cholera became to a certain extent distributed through the body, chiefly finding their location in lymphatic glands; (3) those of swine-plague are not found beyond the part injected; (4) small doses of either have little, if any, pathogenic effect."

Injection with the blood serum of immunised animals seems almost to have failed in permanent results, and in those done with live cultures, the effects, when present, are so violent, and retard so much the growth of the animal inoculated, that the results commercially are wholly out of proportion to the value of the animal.

"The history of tuberculin in human tuberculosis has shown that slow and serious diseases cannot be cured or prevented by simple means."

"Only in very prolonged use and in minute doses, combined with other treatment"—in which food and climate play an important part—can any real benefit be secured. So also with preventive inoculation, only it is easier to prevent than to cure.

Rapid septicæmia seems to be more readily under the influence of preventive inoculation. In rabbits swine-plague would seem to take a very septicæmic form, and this has been shown to be much modified by inoculation with sterilised culture, blood or serum.

The whole question of inoculation for cure or prevention of disease has been prominently before the public now for some time, and the body of this report will be found to contain much useful information in regard to all the possible ways of producing beneficial effects,

these being, in short, as stated by our authors, by one or other of the following methods:—"(*a*) the use of attenuated cultures of live germs; (*b*) the use of sterilised bouillon cultures; (*c*) the same containing suspension of germs from agar cultures; (*d*) the use of sterilised blood from fatal cases; (*e*) the use of blood serum from animals in part immune. In fine, there are only the following three really different ways of producing so-called immunity:—(*a*) the use of living germs; (*b*) the use of their chemical products; (*e*) the use of certain still undefined substance in the blood called antitoxins, ulexins, &c."

It is to specially conducted investigations like these under consideration we look for a decision as to whether it is really in all cases a bacterial product that produces the result, pathogenic or protective, and seeing how widely animals differ in regard to natural immunity to certain diseases, experiments upon the particular animal most concerned are almost the only ones that can yield useful results. Again, as in many of these experiments of Smith and Moore's, the very prolonged physical deterioration of the inoculated animal comes to render such methods, either for cure or immunisation, if not absolutely unsafe to life, so unfavourable to a timely good condition of body that commercially the game may not be worth the candle.

Another most important point has here been raised, viz., that in view of the very possible origination (call it breeding if you choose) of virulent pathogenic organisms from comparatively harmless ones, by reason of nutritive and climatic modification, and that when once elevated to this bad eminence these organisms may now fatally affect other animals, man included, it becomes a duty to push such investigations as the above to a thoroughly practical issue. In this direction lie all the future hopes of medicine. Private enterprise has been shown to be capable of doing very much indeed in commercially barren fields of work, but it is not at all likely that much of such work as that we have been considering can be done by private individuals. Will it always be the case that our Government has to draw largely upon the results of foreign labour?

LIVER DISEASE AMONG CALVES. (REPORT ON INVESTIGATIONS DURING THE SUMMER OF 1893—4. By OTTO HENNING, Government Veterinary Surgeon).

It becomes evident after a perusal of this pamphlet that the scientific spirit is certainly abroad. The writer of the report (whose name does not appear on the register of the Royal College of Veterinary Surgeons) commences by expressing his regret that he had to live at the Richmond Hotel, a lively and frequented hostelry, while this enquiry was going on, as he did not deem it a suitable place "to perform scientific investigations." We don't know; there is a good deal to be said on the other side!

The instructions received from the Department of Agriculture among other things asked their veterinary surgeon (*b*) "to ascertain the conditions of the digestive organs, including the liver at the different stages of the disease as a guide to their therapeutical treatment."

(*d*) "To conduct therapeutical experiments by any likely medicine as experience suggests."

In answering question *b* the writer says, "I beg to submit to you a short description of 50 *post-mortem* examinations, all conducted and recorded by myself." We select a few from the 50:—

No. 1.—Liver: enlarged, section dark-brown yellow, pretty friable, greasy to touch.

Intestines: Gastro-enteritis, Catarrhalis diffusa, Typhlitis ulcerosa multiplex, Omasitis diphtherica.

No. 3.—Liver: Much enlarged, section grey-brown in some parts, cyanotic, white-grey spots in almost every acinus.

Intestines: Enteritis catarrhalis diffusa, hyperæmia partialis in the ileum.

No. 6.—Liver very much enlarged, section grey-red brown, small grey spots in many acini, vena centralis dilated, interstitial tissue hyperæmic.

Intestines: Gastro-enteritis, Catarrhalis ileitis hæmorrhagica.

Spleen: Intumesced.

Kidneys: Nephritis hæmorrhagica.

Pleural cavities: Nothing particular.

No. 10.—Liver very much enlarged, section appearance of a nutmeg, vena centralis dilated with blood, interstitial tissue hyperæmic, acini, swollen, white-grey.

Intestines: Ulcer in the fourth stomach, enteritis catarrhalis gravis. Folliculitis hæmorrhagica.

Spleen: Much enlarged, pulp, red-brown, thick fluid.

Pleural cavities: Emphysematous, friable, some lobules inflamed.

No. 11.—Intestines: enteritis, especially jejunitis et ileitis hæmorrhagica.

No. 30.—Intestines: Gastro enteritis catarrhalis, Choledochitis et cholecip-titis catarrhalis ictorus totalis.

Pleural cavities: Pneumonia bilateralis necrotica diffusa; intima of big arteries (aorta, &c.), icterical.

Sufficient of the *post-mortem* appearances have been quoted, we should think, to enable most of our readers to appreciate their importance, which, like that of John Bunsby's, "Observation lies in the application on't."

A list is appended of the medicines used to combat these pathological conditions, among others enumerated are:—

"Natrium bicarbonicum, natrium subculfurosum, alumen ustum, semen fœniculi, antifibrinum opium pulveratum, besides such simple remedies as kitchen salt, saltpetre, and even paraffin oil."

The investigator is candid enough to say that "there were no distinctly beneficial effects manifest."

We will not say anything about a series of experiments in which the unfortunate calves were drenched with "slime" scraped from their dead companions' bowels, it does not afford pleasant reading.

On p. 35 the writer states that "though I had not received any instructions to perform any microscopical or bacteriological examinations I did not fail to do so, seeing their absolute necessity and great importance." The result, however, of these microscopical examinations is not recorded, which is distinctly a pity, we might indeed expect to learn something from a man whose unaided eye can detect in the liver, not only the individual lobules, but the central hepatic venule, and even determine its condition, whether normal or dilated. Armed with a microscope it is difficult to see how nature could find a means to conceal her inmost workings from such an observer. It appears from some remarks at the end of the report that the Colonial Press does not give an unqualified support to these enquiries, but the expression of hostile opinions will doubtless be silenced by the concluding words of this pamphlet, "as long as our most dangerous diseases in horses, cattle, and sheep are not investigated scientifically, it will naturally be an impossibility for the representatives of the profession to give any reliable advice, or, in other words, to be of any remarkable benefit to this colony."

PROCEEDINGS OF THE THIRTEENTH ANNUAL CONVENTION OF THE UNITED STATES VETERINARY MEDICAL ASSOCIATION AND FIRST VETERINARY CONGRESS OF AMERICA (Art Palace, Chicago, October 16th, 17th, 18th, 19th, and 20th, 1893). Edited by W. HORACE HOSKINS, D.O.S., President. This is a handsomely got-up volume, with a good index, extending over 381

pages, dealing with many important veterinary questions in ethics, education, inspection, history and future prospects of veterinary science, in addition to others, more particularly professional matters relating to diseases, some of which seem to be peculiar to the American continent.

Passing over the preliminary proceedings of the first meeting, October 17th, the President's address, the election of honorary members, &c., we find that in the afternoon session of the same day the President (Williams, Montana), called upon Dr. Winchester (Lawrence, Mass.), "to report upon the question of contagious pleuro-pneumonia in Canada, as one of the reports of the committee on diseases." His report is to the following effect: "Canada is not a good place to learn about pleuro-pneumonia, because, except some specimens in the museum, I have not seen any. This may be thought to be an *ex parte* statement, but I assure you it is a very difficult place to get lungs from cattle that show any signs of pleuro-pneumonia, and out of a large number of lungs examined I have not found any Canadian animal which showed any sign of disease."

Dr. Winchester states that he is in no way officially connected with the Dominion Government, and is, more or less, an unprejudiced person. When it is understood that Canada is a powerful competitor with the United States in the export cattle trade, the impartiality of a United States veterinary surgeon, whose interests might be the other way, will be thoroughly understood and appreciated. He further states that, "so far as I know, no lung traced directly from a Canadian animal has shown a perfectly typical case of pleuro-pneumonia."

The discussion which followed was concluded by Dr. Clement (Baltimore), who observed, "I might make the further remark that the question must be settled from a clinical standpoint to a great extent as to whether or not it is to spread. If some lesions appear in an animal in a herd and then the disease does not spread, it certainly cannot be contagious pleuro-pneumonia." This practical and common-sense conclusion enunciated by Dr. Clement will at once commend itself to the practical knowledge and experience of British veterinarians.

Passing over a considerable amount of matter on veterinary education, &c., left for future consideration, we come to a report on millet diseases in horses, by T. D. Hinebanch, V.S.:—"This millet disease existed in 1891–2 among horses fed on millet, the average death-rate being from seven to ten per cent. On many farms the death-rate was considerably higher, while on others no animals succumbed to the disease. A few of the animals affected remained permanently diseased, the disease having settled in the joints. The condition of the millet at the time of harvesting seemed to make no difference in regard to the virulence of the attack. That which was cut when one-fourth headed produced the same results as that which was fully headed or that which was partly ripened. The symptoms were as follows: For a number of days previous to the attack the kidneys acted very freely, then their action became less than the normal; the muscles of shoulders, chest, loins, and haunches became stiff and sore. Later on there is soreness of the joints, usually the stifle and hock. This often changes from one leg to another or from the hind to the fore extremities, with well-marked symptoms of pain and a slight amount of fever; the temperature varies from 102° to 104°, and in exceptional cases 106°F., but soon recedes. The pulse is frequent and hard and the fever is remittent rather than continued. This pain and fever continue in a greater or less degree during the whole course of the disease. It is a continued succession of ups and downs, gradually becoming less marked until the disease finally comes to an end. There are other symptoms, redness of the membranes of the eye, tongue coated, mouth hot, dry, and sticky—having a peculiarly sour odour—bowels constipated, urine scanty, thick and stringy. The pain

in the muscles causes the animal to assume a cramped or drawn-together position in the back, arched, and with a well-defined line along the lower end of the ribs. The animal has no disposition to move, but if made to do so has a straddling, ungainly, painful gait, frequently groaning at every step. He occasionally lies down and is unable to rise, more from the severe pain than from any changed condition of the muscles or joints. At first there is profuse sweating, especially in the region of the affected muscles. When the disease occurs in mares there is frequently slight tumefaction of the vulva, which extends into the vagina a variable distance; the connective tissue is engorged with serum until in some instances the swelling assumes immense volume.

A number of the cases showed well-marked symptoms of pleuritis and pleurodynia, the pleurisy being very severe, accompanied by a temperature examined by Mr. Barber: Did not know the mare was in Knaresboro' that day. of 102° to 104°. With vigorous treatment it usually subsided within twenty-four to forty.eight hours. The joints then gradually became affected, until the typical form became established.

Duration of the Attack.—There is no definite limit to the time a horse may suffer from a single attack. Mules, which also are subject to the disease, have a severer form, which lasts much longer. Indeed, it appears that mules scarcely ever recover entirely under five weeks to as many months, and they are apt to remain permanently unfit for work.

Some cases (horses, I suppose) recover in a week or ten days, whilst others linger for several weeks or months, especially if the acute form gives way to the chronic: and the older the horse the more acute will be the disease.

Three of the cases and their surroundings are individually described, in each of which the surroundings were very insanitary.

Case I.—Barn low, housed forty head of mules and horses, no special means of ventilation, ceiling covered with frost, which had been gradually melting and dropping down upon the stock, all of which were more or less wet. Fed on millet in good condition, cut when about one-fifth headed out, with bran, some receiving one feed of oats per day, and during the day the stock in a yard having access to wheat straw. This case was diagnosed as rheumatism, and treated with sodium salicylate two ounces, aqua eight ounces; one ounce of this every six hours. This mare entirely recovered in ten days, and when due gave birth to a healthy foal.

Case II.—Mare due to foal. First indication in left hind leg, which increased in severity; afterwards all the joints of the left hind leg became affected, the hock stifle and fetlock being especially tender to the touch. She was put in slings, and during her endeavours to stand ruptured the flexor pedis perforans tendon of the right hind foot, from its insation, and was consequently destroyed.

Surroundings.—Barn contained carriage room, one box and three single stalls, ventilation poor, ceiling covered with frost, which was melting and dropping on the stock. Floor so wet that bedding was wet all the time.

Case III.—Aged mare three weeks foaled, foal healthy (at time of report seven months old).

Surroundings—Ventilation imperfect, banked barn, walls dry. Fed on millet two-thirds headed out, oats three quarts. Animal lying down, endeavoured to get her up by use of slings, would not bear any weight on hind legs; pain upon pressure of any of the joints of hind legs, and also gluteal region. Temperature 140° F., respiration 20, pulse 70, rigors and distressed appearance.

After thirty hours' treatment the attendant attempted to raise the mare, but let her drop, killing her instantly. During struggle she ruptured the *gastro-*

neum externus from its insertion, allowing the summit of the *os calcis* to protrude through the skin.

Post-Mortem Appearances.—The appearances in both hind legs were essentially the same. The insertion of the *abductor magnus* was torn from its attachment and carried with it particles of bone.

The portion of bone which was removed was nearly circular in shape, a little pointed at its upper extremity, and in all covered about $1\frac{1}{2}$ square inches. The region of the *popliteus* was torn loose, and also carried with it a small particles of bone. The bone exposed was somewhat softened, and it was also severed from its attachment to the capsular ligament of the stifle joint. The capsular ligament of the patella showed marked infiltrations, with a diminished supply of synovial fluid; in fact, the absence of synovial fluid was well marked in all the joints, there being scarcely a trace left in some of them. The insertion of the *triceps abductor femoris*, the *tensor fascia lata* and *quadriceps cruralis* were also torn loose from the bone, and, as was the case with the other muscles, carried with them particles of bone. The bursa at the side of the hock, through which the tendon of the *peroneus* muscle passed, was dry, and contained scarcely a trace of the synovial fluid. The parts adhered to each other, showing that the condition had existed for some little time previous to death.

THE LIVE STOCK JOURNAL ALMANACK *for* 1895. (London: Vinton & Co.)

Breeders and owners of live stock in this country and in our agricultural colonies are now well aware of what they may expect to find in this excellent annual, and in the issue before us they will not be disappointed. It is one of the best with which the enterprising firm of Vinton & Co. have favoured the public, and all the special articles it contains are of interest and value to those for whom they were written, some being particularly noteworthy. These articles and the great quantity of additional information which renders this periodical so useful, combine to make the almanack for 1895 indispensable to everyone who has to do with live stock of any kind. There is nothing better produced anywhere for the price.

Legal News.

THE TRIMMING OF DOGS' EARS.—Eight summonses taken out by the Society for the Prevention of Cruelty to Animals against dog-fanciers and dealers for cruelty to certain dogs by cutting their ears, came on for hearing before Mr. Bushby, at Worship Street.—The defendants were William Storer, of Dunstan Street, Haggerston; Robert Carling, and Mary, his wife, of Pritchard's Row; and Harry Cooper, of Gloucester Street, Hackney Road.—Mr. Colam, barrister, conducted the prosecution, and Mr. Speechley, solicitor, defended.—The summonses having reference to different dates and different animals, it was decided to take them separately.—The case against the defendants Carling and Harry Cooper was first taken, Mr. Colam saying that the person who had laid the information was not in attendance, but he would be able to prove his case against the defendants from admissions by the defendants that the Carlings had carried on the trade and practice for a long time, and by Cooper that he had caused it to be done; and by the evidence of the veterinary surgeon who witnessed the suffering of the animal. The practice, he said, was, of course, carried on in dark places, and he understood that in this instance the act of cruelty was done in a Radical Club where Cooper was employed.—A discussion took place as to whether the informant was not necessary as a witness, and it was arranged that the hearing should be adjourned.—*Morning Advertiser.*

PROSECUTION OF A VETERINARY SURGEON.—At the Matlock police-court

Isaac Alken Bartlet, practising as a veterinary surgeon at Wirksworth, was summoned for falsely representing himself as a member of the Royal College of Veterinary Surgeons, London and Edinburgh.—Defendant pleaded guilty through neglect.—Mr. Middleton, of Chesterfield, and Inspector Yates, Derby, of the Royal Society for the Prevention of Cruelty to Animals, prosecuted; and it appeared that on the 12th of September Jabez Hatfield, of Wirksworth, was prosecuted at the Matlock Sessions for cruelty to a horse, and the defendant gave a certificate that the animal was in a workable state, and signed the document "M.R.C.V.S., L. and E." For the prosecution the list of the Royal College for that year was produced, showing that the defendant was not on the register, and Mr. Middleton maintained that he had no right even to call himself a veterinary surgeon.—For the defence Bartlett put in a list of veterinary surgeons in the country, dated 1883, signed by Lord Willoughby de Broke, which proved that when he resided in Warwickshire he was on the list. He said all veterinary surgeons practising before the passing of the 1881 Act of Parliament were put on as existing practitioners, and he applied and was registered.—The prosecution said they could not explain this muddle, but it would be inquired into. Defendant had still infringed the Act by declaring himself a member.—The Bench imposed a fine of 10s., and the costs 15s., and said they had mitigated the penalty in view of the seeming inaccuracy of the two registers.—*Derbyshire Courier.*

A CHARGE DISMISSED.—Mr. Henry Martin, a farmer and well-known breeder of horses, of Peter Hall, Coventry, appeared to an adjourned summons, taken out at the instance of the Royal Society for the Prevention of Cruelty to Animals, charging him with having caused unnecessary pain and suffering to a number of sheep.—Mr. Colam, barrister, prosecuted, and Mr. Arthur Kent, solicitor, defended.—It appeared from the evidence that some 400 sheep arrived by steamer from Scotland at Wapping, and upon arrival there it was discovered that 70 were dead, whilst the others were in a very bad condition owing to the rough voyage. A large number were conveyed to the Bricklayers' Arms station of the South-Eastern Railway, and many of them despatched to Lydd at the order of the defendant. Upon arriving there they were, according to the evidence of a farmer named Levitt, who resides at Ashdown, in a very bad state. Eight of them were in a dying condition, whilst many were bruised and utterly unable to stand.—After hearing the evidence of the man Levitt and a veterinary surgeon named Fordham, Mr. Fenwick animadverted upon the conduct of the defendant, whereupon Mr. Stanley, the veterinary surgeon of the court, stepped into the witness-box, and said that although he was there to give evidence for the Court upon a charge of cruelty to a horse, he would like to say, after having heard the evidence in this case, that he had known the defendant for many years, and that under the circumstances, as an owner of sheep himself, he (witness) would have done exactly as the defendant had done. It would have been most cruel to have kept these small Scotch sheep penned up in London whilst they were recovering from the effects of the voyage. They would have "sweated" terribly, and the best course to adopt was to despatch them, as the defendant had done, to the country.—For the prosecution, Professor Pritchard, the ex-President of the Veterinary College, and Dr. Ralph Cox were called, both of whom were of opinion that it was cruelty to despatch the sheep in the condition they arrived at the wharf.—For the defence Mr. Hunting, the present President of the Veterinary College, and a farmer, who was also a justice of the peace, and Mr. Stanley, veterinary surgeon, were called, and their evidence was to the effect that the defendant had acted in the most humane manner under the circumstances.—Mr. Fenwick said he thought the case a most proper one for investigation, and he believed that the defendant, although acting under an error of judgment, *bona*

fide believed that the course he had adopted was the best. The charge would therefore be dismissed.

VETERINARY SURGEONS AND THEIR RESPONSIBILITIES.—At the Lambeth Police Court recently Mr. Hopkins had before him a case of considerable interest to veterinary surgeons. Mr. George R. James, a veterinary surgeon, of Manor Road, South Norwood, was summoned by Inspector Marsh, on behalf of the Royal Society for the Prevention of Cruelty to Animals, for causing a horse to be ill-treated. Mr. Colam, barrister, appeared to support the summons, and Mr. Poole, solicitor, defended. Mr. Colam said the case arose out of one which recently came before the Court. The defendant then got into the box and said he took the entire responsibility of the animal being worked, that it was worked under his authority, and that he was responsible. Upon that statement his worship said if that were so he could not hold the defendants who were then before the Court liable, and dismissed the summonses. In spite of the proceedings on that occasion the society found that the animal was still being worked, and the present defendant was seen by some of the society's officers. He was asked whether the horse was still being worked, and he replied that it was, and that it would be, in spite of the society. Under these circumstances the society, being advised that this animal was quite unfit for work, felt bound to take these proceedings. Evidence in support of the summonses was given by Inspectors Marsh and Rogers, who spoke as to some conversation they had with the defendant.—Mr. Israel Print, veterinary surgeon, who saw the horse on the 17th of October, the day on which it was stopped by the society's officer, said it was very old and in poor condition. It was weak on both fore limbs, and was lame on the off fore.—Maurice G. Brierley, a Fellow of the College of Veterinary Surgeons, who saw the horse on the 27th of October, gave corroborative evidence, and said he considered the animal quite unfit for work.—Professor Pritchard, an ex-president of the College of Veterinary Surgeons, who saw the horse on the same day as the last witness, expressed the opinion that to work it would cause it pain.—By his Worship: The horse was not fit for any kind of work.—No witnesses were called for the defence, but Mr. Poole submitted that no case had been made out against the defendant. Differences of opinion existed not only amongst the veterinary surgeons, but amongst medical men, amongst lawyers, and amongst all trades and professions. The defendant held the opinion that this horse was fit for work, and, as a matter of fact, it was at work that day.—Mr. Hopkins remarked that he must decide against the defendant upon the veterinary testimony. When horses were brought to that court in a state which would lead one to believe they ought not to be worked, the people who worked them frequently called a veterinary surgeon, and the veterinary surgeon constantly said, "This horse is worked by my authority." He (Mr. Hopkins) did not know what other magistrates did, but he never felt able to convict persons of cruelty when a veterinary surgeon took that responsibility upon himself. Mr. James had taken that responsibility, and, in spite of the suggestion by the society that this was a horse which should not be worked, it was, by his advice, still at work. The society had brought overwhelming veterinary testimony against him, and the defendant would have to pay a penalty of 20s. and £3 3s. costs.—*Morning Advertiser.*

A SOUTHPORT DOCTOR AND HIS HORSES.—At the Southport County Court, before his honour Judge Collier, for the third time, a case in which Dr. Edward Ball, of 2, Part Street, Southport, claimed damages from Thomas Baxendale, farmer, of Crossens, for loss alleged to have been sustained through the negligence of the defendant in regard to two horses belonging to the plaintiff, came on for hearing. The plaintiff's claim, it will be remembered, includes damage for negligence in regard to the keep of his two colts,

which he estimates at £45, professional attendance and medicine supplied by the plaintiff to the defendant and his family £2 15s., and manure 16s. 9d.; total amount of claim, £48 11s. 9d. The defendant counterclaims for £17 1s. 5d. The plaintiff allowed £2 0s. 2d. of this, bringing down the amount of his claim to £46 11s. 7d. The items in the counterclaim include—Grazing, housing, and feeding, £22 18s. 6d.; breaking of horse, £5; damage to harness and trap, £1 2s. 9d.; and shoeing, 3s. 8d.—Mr. A. G. Steel, barrister, again appeared for the plaintiff, and Mr. S. Brighouse for the defendant. When the Court adjourned last week the case for the plaintiff was just concluded. On Tuesday, Mr. Brighouse, in his opening statement for the defence, said that the plaintiff alleged breach of contract, wrongful usage, and neglect on the part of the defendant. When called upon to give further particulars of his claim, he (Dr. Ball) said that the defendant had neglected to feed and take care of the colts, allowing them to become weak, ill, and emaciated, and one to remain wounded and injured, whereby the colts were reduced in value, and the plaintiff was put to medical expense. On behalf of the defendant, he contended that the only bargain was that the colts had to go out for a winter's run, and that on his (the defendant's) own suggestion if it were a cold and wet night, they should be put up and should have a little hay. Nothing was said as to giving them a feed of oats, and he should not only prove that, but that the price then agreed upon could not cover anything else except what was known as a winter's run. Horses were sent out in two ways and at two seasons of the year. The first was from March to September or October, when they were sent out "to grass," and then from that time until the period came round again they were sent out for their winter's run. The colts in question were sent out for the winter's run. "Charles I." was purchased at the Ormskirk September fair in 1892, and it was taken by the defendant for a winter's run, remaining with him until September, 1893. During that time no complaint was made by Dr. Ball as to the treatment of the animal. On the 3rd October Mr. Kershaw went to visit it for the purpose of insurance, and he was not able to say that its condition was otherwise than it should have been His first contention, therefore, was that whatever the result of that trial might be, Mr. Baxendale was entitled, so far as "Charles I." was concerned, to receive 5s. a week from September, 1892, to October 3rd, 1893. As to "Charles II.," it was purchased at the Ormskirk fair in 1893, and, according to the plaintiff's statement, was three parts Arab bred. It was very important to recollect that. This colt was not intended for the cart, or for agricultural purposes, but for the carriage, it having showy points about it. In regard to this colt, Dr. Ball saw Mr. Baxendale, and no bargain was made about it. It was sent out to grass simply by this conversation :—Dr. Ball said: "I have purchased another colt, I am sending it to you." Mr. Baxendale replied, "All right," and the colt was sent. Nothing was said as to what should be done, or the price to be paid at that time. It seemed to have been implied that "Charles II." should go at the same charge as "Charles I." From then up to February, when the colts were brought back, they were not seen by Dr. Ball or any of his men, and he thought it was quite evident that the plaintiff was satisfied with the treatment they had received, and was not even suspicious that Mr. Baxendale would not treat them properly. He should prove that Mr. Baxendale had not only ample grass for the two colts and his own, but for several others which he had agreed to take to agist. Although evidence had been given by the plaintiff as to how these colts looked when returned, he should prove by men better versed in what happened to horses sent out in the winter than some of the witnesses for the plaintiff that their condition was only what could be expected from sending them out during the winter. His Honour would recollect that one of the plaintiff's witnesses, Mr.

Oldfield, in cross-examination, rather facetiously, but none the less truly, said that if he wanted to starve a horse, he would starve it at home, rather than send it to grass. Anyone who knew anything about horses knew that to send one out for a winter's run was an economical way of keeping the horse alive. When it came home it was thinner, had a shaggy coat, and suffered more or less from the inclemency of the weather. "Charles II.," however, came home on the 27th February, and died on the 1st May. It was not then hinted that "Charles II." had been badly treated or starved. It was not until 27th June, seven days before the case was entered into the court, on the very day in fact when the defendant suggested a settlement of accounts, that Dr. Ball mentioned that the colt had been starved. In the statement of claim to the insurance company starvation was not mentioned by the plaintiff, and in the telegram to the company by Mr. Kershaw on the death of the animal no mention was made of this. One would have thought that if Dr. Ball had had any idea of starvation he would have put it into his claim, because to keep back something which he knew should be disclosed was just as bad as putting something in which he knew to be false. And if Mr. Kershaw, who was the veterinary surgeon for the plaintiff as well as the society, believed that the horse had died from the effects of starvation he had no right to send the telegram he did. He should be able to prove that Mr. Kershaw's certificate of the 2nd May gave the true cause of death. Mr. Baxendale would satisfy his Honour that the colt "Charles II." did not die as the result of ill-treatment, neglect, or starvation at his hands. It would be proved that the defendant treated the colt as if it were his own property, and that it died from inflammation of the kidneys, brought about in the way set out in Mr. Kershaw's certificate. What Mr. Kershaw might have said in evidence, he asked his Honour to say, that when he gave that certificate on the 2nd May he spoke the truth about the cause of death. He submitted that if the cause of death was that stated in the certificate, Mr. Baxendale ought not to be found liable for one penny with respect to "Charles II." On the 21st April the colt was driven to Scarisbrick in a dogcart with three persons, and there was a smash. His contention was that the horse received such a shock as to set up the disease from which it died. He commented on the fact that Dr. Ball gave £22, and that he had received £26 from the insurance company.—Mr. Steel: That has nothing whatever to do with it. The amount of money paid by the company cannot be taken into consideration.—Mr. Brighouse: I only say that he has received the money, and now he wants the defendant to pay him a sum of £20, although in the first place he only gave £22 for the colt. Continuing, Mr. Brighouse said he would not address the court on the subject of damages with regard to "Charles II." His contention was that the defendant carried out his contract, and that the colt died from causes over which he had no control; causes other than those stated by the learned counsel and his client. There were two complaints about "Charles II." The first was that the defendant starved it; the second that he injured it. "Charles I." was alive; the horse could be seen, and had been seen by Mr. Platt, a veterinary surgeon of Southport. The argument he made use of with regard to "Charles II.," so far as starvation was concerned, applied to "Charles I." There was a bargain, and the defendant carried it out. Neither Dr. Ball nor anybody who knew anything about horses, could possibly expect a horse that went out for a winter's run to look as well and nice in its coat as when it went. With respect to the accident, he ventured to contend, on behalf of the defendant, that in the absence of any agreement to the contrary, he could not possibly be liable for injuries that the colt received accidentally. Dr. Ball's statement was that the colt was injured; he was unable to say how or where. Mr. Baxendale only found that the animal was injured on the day that it was taken away, otherwise he would have informed Dr. Ball. He (the

defendant) was totally ignorant then, and was now, as to how the colt came by its injuries. With respect to the injury to "Charles I.," his contention would be that, unless it was proved to his honour's satisfaction that the colt was injured by the defendant's neglect, he was not liable.—William Woods, veterinary surgeon, Wigan (a member of the board of examiners for the college), was the first witness called. He said that he had some experience of nephritis in horses, although it was rather a rare disease.—Mr. Brighouse: If a horse had been suffering from chronic inflammation of the kidneys for two months do you think that nine days before its death it would be able to go a journey of eight miles without showing any indication that it was suffering from the disease?—Witness: No, the horse would scarcely be able to drag himself along.—Assuming the same facts that I put to you a moment ago, would the horse, seven days before its death, be able to go a distance of eight miles in double harness, with an eleven cwt. wagonette?—Most decidedly not, assuming the cause of death to be chronic inflammation of the kidneys, because the symptoms of that disease would be exceeding weakness.—The evidence previously given by Mr. A. J. Kershaw as to the results of the *post-mortem* examination made on "Charles II." having been read over by his honour, Mr. Brighouse asked the witness whether, having heard the symptoms described, he was of opinion that they were consistent with chronic or acute inflammation of the kidneys.—Witness: Acute inflammation distinctly. Continuing, he said that kidney disease might be due to (1) either injury or strain, (2) to some other disease, or (3) to a severe chill. He had known kidney affections from these three causes, but he never heard starvation suggested as a cause, and there were very strong reasons why it was unlikely that it should be a cause unless accompanied by disease of other organs. Supposing that when a horse was being broken in to harness it was driven a distance of 18 miles, and then, having sweated considerably, was allowed to stand still and got a chill, it might set up acute inflammation of the kidneys. Bucking or jumping about during breaking was another accepted cause. In his opinion the probable cause of the death of "Charles II." was acute nephritis, of which he had given them the accepted causes.—Mr. Steel: Supposing a horse had received an injury nine days before death, when would you expect that the first symptoms of injury or disease would appear in that horse?—Witness: Within a few hours of the injury.—Mr. James M'Laren, veterinary surgeon, of Liverpool, spoke to making a *post-mortem* examination of "Charles II." in conjunction with Mr. Kershaw. Both Dr. Ball and Mr. Kershaw had mentioned to him about the colt meeting with an accident. Dr. Ball said that from the symptoms exhibited by the colt he formed the conclusion that there was some disease of the kidneys, and prior to the death of the animal he had given it some gin.—Mr. Steel: Assuming that there had been some injury, strain, or blow on the 21st April which set up acute nephritis, would not you expect some serious symptoms within 24 hours?—Witness: I would expect some symptoms.—Would you not expect in a case of acute nephritis which was going to cause death that death would ensue in 60 hours?—Hardly in 60 hours; give it a bit longer, say about three days.—By Mr. Brighouse: In symptoms of chronic nephritis they had other organs affected.—Mr. James Platt, veterinary surgeon, of Southport, said that on October 26th of this year he saw "Charles I." on the premises of Dr. Ball, and then he found the horse in fair condition. He should not expect a three-quarter bred Arab horse to stand a winter's run so well as a cart-horse bred animal; he should expect the former to come back very poor.—Henry Hewitson, veterinary surgeon, and assistant to Mr. Platt, was called, but was not examined at length.—The defendants, Miss Jane Baxendale, Robert Wareing, John Riding, and James Ball having given evidence, the case was again adjourned until the next court day.

Notes and News.

KICKED BY A HORSE.—Mr. Frederick Garside, veterinary surgeon, met with an accident recently whilst examining a young colt belonging to Mrs. Winterbottom, of the "Ram." The animal lashed out with its hind leg, and caught Mr. Garside on the cheek, which it cut very badly. Medical assistance was called in and the wound attended to.—*Cheshire Herald.*

FOOT-AND-MOUTH disease has re-appeared in East Kent. Cattle suffering from the disease were discovered in Ashford market. It transpired that the animals came from Bristol. The market has been closed, the removal of all cattle, pigs, or sheep from the market has been prohibited, and all persons leaving the market have been ordered to dip their boots in a solution of carbolic acid.

HORSES IN FRANCE.—The *Monde Illustré* says:—France possesses 3,000,000 horses with a total value of 1,361,000,000 francs or about £56,708,333. Reckoning the population at 36,000,000, this gives 8 horses to every 100. The number in Germany is only 7½ per cent. The French army uses 140,000 to 150,000 and 700,000 to 800,000 for street traffic, or not quite 1,000,000 together. About 2,000,000 are used for agricultural purposes. Recent statistics show the rapid increase in the number of horses in towns, which is greater than that of the population; 120,000 are used in Paris, as against 70,000 in 1870.

THE FAUNA OF DEAD BODIES.—The eminent French veterinary surgeon, M. Mégnin, in a work presented to the Paris Academy of Medicine, on the fauna of dead bodies, indicates the importance of these entomological studies with regard to medical jurisprudence. The insects appear in relays according to the period of putrefaction. The first which appears is the musca curtonea and callophora. It is present on dead bodies buried in the most careful manner. The eighth group, coleoptera, are found in dead bodies which have been buried four years. The dust that remains after the decomposition of the body is really the excreta of these animals.

ONE of the questions discussed before the Paris Academy of Medicine recently was, our correspondent says: Should consumptives and other persons be encouraged to keep dogs? Dr. Megnin, formerly a veterinary surgeon in the army, sent in a paper to show they should not. The dog is just as liable as his master to be infected by tuberculosis, and to spread it. Dr. Megnin had under his care many canine consumptives. They were of the lap-dog species, and it is said caught the malady from their masters or mistresses. Dogs, said Dr. Megnin, were liable to many sorts of septicæmia and to scurvy. The dog, so teachable, was not given any education of the palate, but was allowed to eat infectious garbage and nameless filth. This alone would account for its liability to rabies. The dog by intelligent care in its breeding, education, and hygiene might be made the paragon of four-footed beings, and the worthy friend and auxiliary of intelligent human beings. Dogs reflected the moral qualities and the vices of their masters. Wherever manners were mild, dogs ceased to be ferocious. In conclusion the author of the paper proposed the foundation of a chair for canine anatomy and diseases.—*Daily News.*

TUBERCULOSIS continues to be discussed in many quarters. Until the Royal Commission on the subject appear, discussions are of course more or less of an academic nature, but the Commission has now sat for two or three years, and though Principal Williams, of Edinburgh, believes that its report "is to be out directly," there is every excuse for the motion passed last week by the Scottish Chamber of Agriculture asking the Commission to issue their report without further delay. Principal Williams, who has a wide knowledge of the subject, supported the motion. He pointed out that it was stated that

in the city of Edinburgh 25 per cent. of the cattle are tuberculous, and added that, in his opinion, that estimate was too low. He alluded to the fact that all authorities were agreed upon this—that the tendency to tuberculosis is certainly hereditary, and that the hereditary tendency is greatest amongst highly-bred cattle—which we take to mean cattle more or less in-bred. Pasture became affected with the disease from being grazed with tuberculous cattle; rabbits died of the disease, and the grass was further affected, so that, the Professor added, one need not wonder at the increase in the disease during comparatively recent years.—*Fife Herald.*

ERRATA.

THE following errors and misprints occur in our last issue:—

At p. 414, 12 lines from bottom, for Machydont *read* Brachydont;
At pp. 416-17, for carnapial, repeated several times, *read* carnassial;
At p. 417, line 4, for Corvidæ *read* Canidæ;
At p. 419, line 16, for Swinæ *read* Suinæ.

Correspondence.

THE JUBILEE MEMORIAL.

AT a special meeting of the Council of the Royal College of Veterinary Surgeons held on November 28th, Mr. R. C. Trigger presented the report of a meeting of the Jubilee Memorial Committee at which he presided, the following other members being present:—Mr. W. Hunting, Professor Brown, C.B., Professors Williams and Penberthy, Messrs. J. Fraser, G. Elphick, H. Kidd, E. Faulkner, F. C. Mahon, C. Hartley, A. W. Mason, A. C. Cope, J. Villar, A. W. Wheatley, J. F. Simpson, J.P., W. J. Mulvey, F. W. Wragg, J. A. W. Dollar, and the Hon. Secretary (Professor Macqueen).

A letter was read from Mr. Thos. Greaves expressing regret at his inability to attend, and promising a donation. After due consideration the following resolutions were adopted:—(1.) That the memorial should take the form of a scholarship or bursary in recognition of the services of Messrs. Turner, Goodwin, Mayer, Dick, Sewell, Spooner, and Simonds, who obtained the first charter for the Royal College of Veterinary Surgeons in 1844. (2.) That a memorial tablet bearing the dates 1844-94, and the names of those gentlemen be placed within the College building. (3.) That the scholarship or bursary be applied as recommended by this committee, subject to confirmation by the Council of the College. (4.) That to carry out the above-named objects an appeal for donations be made to the profession generally, and to the various veterinary medical societies. (5.) That the editors of the various veterinary journals be asked to call the attention of the profession to the same. (6.) That the subscription be opened and the names of subscribers published in the veterinary periodicals; and (7.) That subscriptions be unlimited in amount. Mr. Trigger added that the subscription list had been headed by a contribution of £50 from the Council of the Royal College of Veterinary Surgeons, and a like sum from the Midland Counties Veterinary Society. The report was received and adopted.

TO THE VETERINARY PROFESSION.

GENTLEMEN,—May I venture to call your attention to the proposed Jubilee Memorial now before you, and ask for your cordial co-operation and support to ensure its success. The scheme, as submitted to, and adopted by the Council, will be found in the published reports of the last Council meeting. It will, I hope and believe, commend itself to every member of the profession.

Bis dat qui cito dat—"He gives twice who gives quickly," was never more applicable than to the present Memorial. Prompt action will ensure the foundation of the scholarship at least a year earlier than if the matter were allowed to drag. Therefore, let our action be sharp, short and decisive, and let us vie with one another, not as to who shall give most largely, but most promptly, and let our first published list of subscribers be one worthy of the cause.

We do not wish or expect large subscriptions. We appeal to the great body of the profession, and simply remind them, that, except for the action of the men of 1844, whose good work we propose to recognise by a lasting Memorial, we should not have been a profession at all, or had any rights or privileges. If every man will send something, according to his means, success will be assured.

Gentlemen, the Jubilee babe is born, and his name, we hope, will be Scholarship. He has been most cordially received whenever he has as yet appeared. If every member of the profession will stand "Godfather," and send a small donation to ensure him a vigorous youth, he will then attain a perpetual old age, and keep green, long after the present generation has passed away, the names of Turner, Goodwin, Mayer, Dick, Sewell, Spooner, and Simonds, who incorporated our noble profession in 1844.—I am, gentlemen, your obedient servant,

ROBT. C. TRIGGER,
Chairman of Jubilee Memorial Committee.

Donations to FRANK W. WRAGG, ESQ., Veterinary Surgeon, Church Lane, Whitechapel, London.

SPRATT'S ALMANACK.

DEAR SIR,—We have pleasure in sending you herewith a copy of our calendar for the coming year. You will notice the designs are by artist specialists on prize dogs and poultry subjects. The information at back of each picture is extremely valuable to all interested in dogs and poultry. We can only guarantee posting a copy to your readers if they at once send us a stamp for postage, marking the envelope, "Almanack Department."—Yours respectfully,

SPRATT'S PATENT, LIMITED.

Communications, Books, Journals, etc., Received.

COMMUNICATIONS have been received from Capt. Moore, A.V.D., W. Littlewood, Cairo; Capt. J. A. Nunn, A.V.D., "Spratt's Patent," Chas. Blackhurst, M.R.C.V.S., J. Lund, M.R.C.V.S., E. Wallis Hoare, F.R.C.V.S., R. C. Trigger, F.R.C.V.S., Sam. Locke, F.R.C.V.S.

BOOKS AND PAMPHLETS: "Manual of Veterinary Micro-Biology," translated by *R. H. Dinwiddie*, Cincinnatti; *W. S. Department of Agriculture*, Investigations—Bovine Tuberculosis.

JOURNALS, ETC.: *Modern Medicine and Bacteriological Review, The Horticultural Review, American Veterinary Review.*

A NEW VETERINARY TEXT-BOOK.

As we were putting the January number of this JOURNAL to Press, a copy of Mr. E. Wallis Hoare's new "Manual of Veterinary Therapeutics and Pharmacology" reached us from the publishers, Messrs. Bailliere, Tindall & Cox. For the present we can do no more than announce its appearance, reserving a detailed criticism and description for a future occasion.